

1 Page 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

IN RE NATIONAL PRESCRIPTION OPIATE LITIGATION

MDL No. 2804

Case No. 17-md-2804

Judge Dan Aaaron Polster

THIS RELATES TO:

THE COUNTY OF CUYAHOGA, OHIO, ET AL VS. PURDUE
PHARMA L.P., ET AL CASE NUMBER 18-OP-45004

VIDEO DEPOSITION OF

CLAIRE KASPAR

JANUARY 15, 2019

DEPOSITION HELD AT KELLEY & FERRARO

950 MAIN AVENUE, SUITE 1300

CLEVELAND, OH 44113

Page 2	Page 4
1 APPEARANCES OF COUNSEL:	1 INDEX
2	2 PAGE
3 FOR THE PLAINTIFF:	3 EXAMINATION
4 Mr. Anthony Gallucci	4 QUESTIONS BY MS. RANJAN 7
5 McDermott & Hickey	5 QUESTIONS BY MR. O'GORMAN 259
6 20525 Center Ridge Road, Suite 200	6 QUESTIONS BY MR. EMCH 270
7 Rocker River, OH 44116	7 EXHIBITS
8 (216) 712-7452	8 Deposition Exhibit 1 (CV) 24
9	9 Deposition Exhibit 2 (email) 43
10 Ms. Brandy H. Ranjan	10 Deposition Exhibit 3 (email) 117
11 Jones Day	11 Deposition Exhibit 4 (email) 139
12 325 John H. McConnell Blvd., Suite 600	12 Deposition Exhibit 5 (email) 151
13 Columbus, OH 43215	13 Deposition Exhibit 6 (PDRC Minutes 158
14 (614) 469-3939	14 February 2013)
15 For Wal-Mart	15 Deposition Exhibit 7 (CPDR June 161
16	16 2013 minutes)
17 Ms. Debra D. O'Gorman	17 Deposition Exhibit 8 (Cuyahoga 173
18 Dechert, LLP	18 County Heroin Epidemic)
19 1095 Avenue of the Americas	19 Deposition Exhibit 9 (email) 184
20 New York, NY 10036	20 Deposition Exhibit 10 (email) 187
21 (212) 698-3500	21 Deposition Exhibit 11 (email) 191
22 For Purdue Defendants	22 Deposition Exhibit 12 (email) 194
23	23 Deposition Exhibit 13 (email) 196
24	24 Deposition Exhibit 14 (preliminary 200
25	25 drug deaths report)
Page 3	Page 5
1 APPEARANCES CONTINUED:	1 EXHIBITS
2	2 Deposition Exhibit 15 (email) 210
3 Mr. A.L. Emch	3 Deposition Exhibit 16 (email) 213
4 Jackson Kelly	4 Deposition Exhibit 17 (email) 217
5 500 Lee East Street E., Suite 1600	5 Deposition Exhibit 18 (medical 221
6 Charleston, WV 25301	6 examiner's role in addressing the opioid
7 (304) 340-1172	7 crisis)
8 For AmerisourceBergen Drug	8 Deposition Exhibit 19 (email) 254
9	9
10 Mr. Justin E. Rice	10
11 Tucker Ellis	11
12 950 Main Avenue, Suite 1100	12
13 Cleveland, OH 44113	13
14 (216) 696-3670	14
15 For Janssen and Johnson and Johnson	15
16	16
17 Ms. Neda Hajian (appeared by phone)	17
18 Arnold & Porter	18
19 601 Massachusetts Avenue, N.W.	19
20 Washington, D.C. 20001	20
21 (202) 942-6840	21
22 For Endo Pharmaceuticals and Par Pharmaceuticals	22
23	23
24 THE VIDEOGRAPHER:	24
25 Kurt Henschel	25

<p>1 VIDEO DEPOSITION</p> <p>2 THE VIDEOGRAPHER: Today's date is</p> <p>3 January 15th, 2019. We are on the record at 9:04.</p> <p>4 We are here in the matter of National Prescription</p> <p>5 Opiate Litigation. This deposition is taking place</p> <p>6 in Cleveland, Ohio. Would counsel please identify</p> <p>7 themselves for the purpose of the record.</p> <p>8 MR. GALLUCCI: Anthony Gallucci on behalf</p> <p>9 of Cuyahoga County.</p> <p>10 MS. RANJAN: Brandy Ranjan on behalf of</p> <p>11 Wal-Mart.</p> <p>12 MS. O'GORMAN: Debra O'Gorman on behalf of</p> <p>13 the Purdue defendants.</p> <p>14 MR. EMCH: Al Emch on behalf of</p> <p>15 AmerisourceBergen Drug Corporation.</p> <p>16 MR. RICE: Justin Rice from Tucker Ellis</p> <p>17 on behalf of Janssen and Johnson and Johnson.</p> <p>18 THE VIDEOGRAPHER: And on the telephone,</p> <p>19 please?</p> <p>20 MS. HAJIAN: On behalf of Endo and Par.</p> <p>21 THE VIDEOGRAPHER: Would the court</p> <p>22 reporter please swear in the witness.</p> <p>23</p> <p>24</p> <p>25</p>	Page 6	<p>1 A Yes.</p> <p>2 Q Similarly, he can't record down things</p> <p>3 like nods of the head or uh-huhs because those just</p> <p>4 won't come through on the record. So if you could</p> <p>5 try to make your answers oral and yes, no, those</p> <p>6 type of responses, that would be great.</p> <p>7 If at any time during the deposition</p> <p>8 you need to take a break, that's totally fine. This</p> <p>9 is not a marathon, it is not an endurance test. We</p> <p>10 can take a break at any time. I will just ask if</p> <p>11 there is a question pending, you answer it and we</p> <p>12 can go off the record and take a break.</p> <p>13 A Okay.</p> <p>14 Q Does that make sense?</p> <p>15 A Yes.</p> <p>16 Q You let me know if you need to take a</p> <p>17 break for any reason?</p> <p>18 A Yes.</p> <p>19 Q And if I ask you any kind of a question</p> <p>20 that doesn't make sense to you, you need me to</p> <p>21 clarify it, you didn't understand, anything of that</p> <p>22 nature, please let me know and I will rephrase my</p> <p>23 question, does that make sense?</p> <p>24 A Yes.</p> <p>25 Q And if you don't ask me to rephrase my</p>	Page 8
<p>1 CLAIRES KASPAR,</p> <p>2 of lawful age, having been first duly sworn to</p> <p>3 testify the truth, the whole truth, and</p> <p>4 nothing but the truth in the case aforesaid,</p> <p>5 deposes and says in reply to oral</p> <p>6 interrogatories, propounded as follows, to-wit:</p> <p>7 EXAMINATION</p> <p>8 BY MS. RANJAN:</p> <p>9 Q Good morning, Miss Kaspar. We met off</p> <p>10 record. My name is Brandy Ranjan, I'm from the law</p> <p>11 firm of Jones Day and I represent Wal-Mart in this</p> <p>12 matter. I will be asking you some questions today.</p> <p>13 To start, have you ever had your</p> <p>14 deposition taken before?</p> <p>15 A I have not.</p> <p>16 Q Okay. So then I just want to cover a few</p> <p>17 ground rules that will hopefully make today go more</p> <p>18 smoothly. Your counsel probably covered these with</p> <p>19 you too, but just so we are on the same page.</p> <p>20 First of all, you will see there is a</p> <p>21 court reporter here today. He is taking down</p> <p>22 everything that both of us say.</p> <p>23 So that means whenever I'm speaking,</p> <p>24 you can't speak and vice versa. So we can try not</p> <p>25 to speak over each other, does that make sense?</p>	Page 7	<p>1 questions, I will assume that you understood them?</p> <p>2 A Okay.</p> <p>3 Q Is there any reason why you can't testify</p> <p>4 fully and truthfully here today?</p> <p>5 A No.</p> <p>6 Q You are not taking any kind of medication</p> <p>7 that would prevent your recall or your ability to</p> <p>8 testify fully?</p> <p>9 A No.</p> <p>10 Q You understand that you are under oath?</p> <p>11 A Yes.</p> <p>12 Q What does that mean to you?</p> <p>13 A Um, that I am on the record and everything</p> <p>14 that I say will be true.</p> <p>15 Q Great. What, if anything, did you do to</p> <p>16 prepare for your deposition today?</p> <p>17 A I looked at print-outs of a few of the</p> <p>18 presentations and publications that I've made in</p> <p>19 regards to opioids.</p> <p>20 Q Do you remember what specifically?</p> <p>21 A Um, there was a poster that talked about</p> <p>22 the prevalence and increase of heroin overdoses from</p> <p>23 2006 to 2011. I don't remember the exact title of</p> <p>24 it, but that's the gist of what that poster was</p> <p>25 about.</p>	Page 9

<p>1 I looked at a poster presentation 2 that discussed the formation of 6-acetylmorphine 3 when you combine morphine and aspirin. 4 I also looked at a publication about 5 that same topic. 6 Q I'm sorry to interrupt you. Was that a 7 paper that you wrote or a paper that someone else 8 wrote? 9 A I wrote that paper. 10 Q Okay. 11 A I also reviewed a publication that 12 Dr. Gilson wrote that I was also a co-author on 13 and -- 14 Q What was the topic of that presentation? 15 A That one was about the heroin, I might 16 have said heroin epidemic in Cuyahoga County, it was 17 something along those lines. 18 I reviewed a poster presentation that 19 I presented about dihydrocodeine. I reviewed a 20 poster presentation that I presented about unusual 21 heroin overdoses or explanations for those unusual 22 overdoses. 23 Q What was the year of that publication? 24 A That, I presented that in 2014, in October 25 of 2014. So I believe made that poster in 2014</p>	Page 10	<p>1 review anything else in preparation for your 2 deposition? 3 A Um, I reviewed a publication about 4 lingering heroin overdoses or opioid overdoses. I 5 believe that is all of the documents that I looked 6 at. 7 Q Did you meet with anyone to prepare for 8 your deposition today? 9 A I did. 10 Q Who did you meet with? 11 A Anthony Gallucci. 12 Q When did you meet with him? 13 A Yesterday. 14 Q For how long? 15 A Maybe two and a half hours. 16 Q Was anyone else present at that meeting? 17 A No. 18 Q Was there anyone on the phone? 19 A No. 20 Q Other than meetings, did you discuss your 21 deposition today with anyone else? 22 A Just that I had one, but. 23 Q Who did you discuss that with? 24 A With my, with the chief toxicologist in 25 our office.</p>	Page 12
<p>1 also. 2 Q Okay. Was that the title of the poster, 3 unusual -- 4 A I can't remember exactly what the titles 5 are, but it was something along those lines. 6 Q Do you remember generally what that poster 7 discussed? 8 A That poster was to help explain a few 9 cases that we had in our office where they looked 10 like they were going to be heroin overdoses, but 11 then our toxicology results didn't necessarily 12 reflect that. 13 So, for instance, two of them have 14 very low concentration of morphine and that was all 15 that we found related to heroin and we considered 16 those to be lingering overdoses. 17 A couple of them turned out to be 18 Fentanyl overdoses. This was probably around when 19 we started to see the Fentanyl coming back into the 20 area with the heroin. 21 Um, and then a couple of the cases we 22 were unable to determine what the individuals 23 injected, but they believed that they had injected 24 heroin. 25 Q Okay. I'm sorry to interrupt. Did you</p>	Page 11	<p>1 Dr. Gilson? Not the chief toxicologist, 2 he's the medical examiner, obviously, right? 3 A Yes. 4 Q Who is the chief toxicologist? 5 A His name Dr. Luigiano Apollonio. 6 L-U-I-G-I-A-N-O, and then Apollonio, like Apollo. 7 So I don't know and then O-N-I-O, Apollonio. Eric 8 Lavins is my supervisor. I also talked to him 9 letting him know that I had this deposition. 10 Q And those were just scheduling type of 11 conversations? 12 A Yeah, and just casual letting them know 13 that I have this, yeah, that was it. So, yes, to 14 let them know I won't be in the office and just, I 15 don't know, conversational I have to do this. 16 Q Okay. Did you speak to your, do you have 17 a spouse or significant other? 18 A I do. 19 Q Did you speak to him or her about your 20 deposition today? 21 A Um, he just knows that I have a 22 deposition. 23 Q Okay. Anyone else? 24 A Huh-uh. 25 Q Okay. Did you talk to Dr. Gilson about</p>	Page 13

<p style="text-align: right;">Page 14</p> <p>1 his deposition yesterday?</p> <p>2 A I did not.</p> <p>3 Q Or about anything related to this lawsuit?</p> <p>4 A No.</p> <p>5 Q Did you review any deposition testimony in</p> <p>6 preparation for your deposition today?</p> <p>7 A No.</p> <p>8 Q Did you review any legal filings in</p> <p>9 preparation for your deposition today?</p> <p>10 A No.</p> <p>11 Q We talked briefly before we went on the</p> <p>12 record about your commute, so sounds like you live</p> <p>13 in Cleveland?</p> <p>14 A I do.</p> <p>15 Q Can you please give us your residential</p> <p>16 address?</p> <p>17 A I live at 9817 Tamarack Trail in</p> <p>18 Brecksville, Ohio, 44141.</p> <p>19 Q All right. What is your current</p> <p>20 occupation?</p> <p>21 A I work as a Forensic Toxicologist III at</p> <p>22 the Cuyahoga County Medical Examiner's Office.</p> <p>23 Q And generally speaking, what are the</p> <p>24 duties of a Forensic Toxicologist III?</p> <p>25 A My typical duties are to extract the drugs</p>	<p style="text-align: right;">Page 16</p> <p>1 A I don't remember the exact date that I</p> <p>2 received it. So I began working at, it was at the</p> <p>3 coroner's office originally that was in 2004 and the</p> <p>4 requirement for the alcohol testing is to have</p> <p>5 worked in a laboratory for at least six months</p> <p>6 before you can get that certification. And then for</p> <p>7 the drug certification, you have to have worked in a</p> <p>8 laboratory for at least a year.</p> <p>9 So at some point in 2005, I'm</p> <p>10 guessing, is when I first received the certificates</p> <p>11 and then each year we renew them.</p> <p>12 Q Has your certificate ever lapsed?</p> <p>13 A No.</p> <p>14 Q Have you ever taken a certification test</p> <p>15 and not passed?</p> <p>16 A No.</p> <p>17 Q Other than what you have described to me</p> <p>18 so far, do you have any other kind of specialized</p> <p>19 training?</p> <p>20 A Um, no. Well, we have training in our</p> <p>21 workplace to actually like learn how to the assays,</p> <p>22 but no other educational background.</p> <p>23 Q Okay. So you said that you started your</p> <p>24 career in 2005 at the coroner's office?</p> <p>25 A 2004.</p>
<p style="text-align: right;">Page 15</p> <p>1 from biological specimens on either postmortem</p> <p>2 medical examiner cases. We also do police work. So</p> <p>3 we will do DUI cases and drug facilitated sexual</p> <p>4 assault cases.</p> <p>5 So I perform the lab work to extract</p> <p>6 the drugs from these biological samples. I will</p> <p>7 write up the, write up and process all of the data</p> <p>8 that comes along with any extraction procedure that</p> <p>9 I perform. I also review other analysts data that</p> <p>10 they have prepared. And we do method validations,</p> <p>11 we do method development, but my typical day would</p> <p>12 be extracting these cases and then reviewing other</p> <p>13 people's work.</p> <p>14 Q What is your educational background?</p> <p>15 A I have a bachelor's degree in chemistry</p> <p>16 pre-medicine from Ohio University. I graduated from</p> <p>17 there in December of 2003. I also have a minor in</p> <p>18 psychology.</p> <p>19 Q Do you hold any licenses or</p> <p>20 certifications?</p> <p>21 A I do. I am certified by the State of Ohio</p> <p>22 to perform drug and alcohol testing. I think it is</p> <p>23 Ohio Department of Health that gives us those</p> <p>24 certifications.</p> <p>25 Q When did you receive that certification?</p>	<p style="text-align: right;">Page 17</p> <p>1 Q 2004?</p> <p>2 A May of 2004.</p> <p>3 Q And that was the coroner's office here in</p> <p>4 Cleveland?</p> <p>5 A Yes, it is same office I currently work</p> <p>6 in, it just was a coroner's office back then and now</p> <p>7 we're medical examiners.</p> <p>8 Q The difference between a coroner's office</p> <p>9 and medical examiner's office is essentially that a</p> <p>10 coroner is elected, while a medical examiner is</p> <p>11 appointed, is that accurate?</p> <p>12 A Yes.</p> <p>13 Q Have you worked your entire career at the</p> <p>14 Cleveland, either coroner's office or medical</p> <p>15 examiner's office?</p> <p>16 A I have not. I worked at the coroner's</p> <p>17 office from 2004 until September of 2007. I moved</p> <p>18 to Maryland and worked at the State Medical</p> <p>19 Examiner's Office in Baltimore in their toxicology</p> <p>20 department. I worked there from September of 2007</p> <p>21 until July of 2010. And then I moved back to</p> <p>22 Cleveland and I started my current job in July of</p> <p>23 2010. It was still the coroner's office at that</p> <p>24 point, but medical examiner's office now.</p> <p>25 Q During your first, I will call it your</p>

<p style="text-align: right;">Page 18</p> <p>1 first stint at the coroner's office here in 2 Cleveland, from approximately 2004 to 2007, what was 3 your position then?</p> <p>4 A Um, I think that it was called forensic 5 chemist back then. We did not have the different 6 steps of like Forensic Scientist I, II and III like 7 we have now. I'm pretty sure it was just forensic 8 chemist.</p> <p>9 Q Who were you reporting to at that time?</p> <p>10 A Our chief toxicologist was Amanda Jenkins 11 and Eric Lavins was still the supervisor back then. 12 And the coroner was Dr. Elizabeth Balraj.</p> <p>13 Q Why did you decide to leave the Cleveland 14 coroner's office and go to Maryland?</p> <p>15 A My husband was in school in Maryland and I 16 found out that a position was opening at their 17 medical examiner's office doing exactly what I do 18 here in Cleveland. So I decided to move out there 19 and try it out there and see how I liked it.</p> <p>20 Q When you were in Maryland, did you do 21 essentially the same kind of work that you did here 22 in Cleveland?</p> <p>23 A Yes, the exact same work.</p> <p>24 Q And then what made you decide to come back 25 to Cleveland in July 2010?</p>	<p style="text-align: right;">Page 20</p> <p>1 consider, so us reviewing the data of other 2 analysts, they don't consider us to be supervising 3 them, that's something that anybody who is signed 4 off on a particular assay is able to review other 5 people's data who have done that same assay. But 6 even back then, I don't think I was even reviewing 7 data because I'm pretty sure the chief toxicologist 8 and supervisor were doing all the data review.</p> <p>9 Q Okay. And then at some point you became, 10 instead of a forensics scientist, forensic, you have 11 to remind me of the title, Forensic Toxicologist 12 III?</p> <p>13 A It is Forensic Scientist III and then in 14 toxicology.</p> <p>15 Q When was that changed?</p> <p>16 A That happened in 2015.</p> <p>17 Q Was that a promotion?</p> <p>18 A That was, they had us all fill out CPQs to 19 determine what position to put everybody in. So I 20 believe that was when they came up with the 21 different levels of I, II and III. And then 22 originally came back saying that I was Forensic 23 Scientist II. One of my other co-workers as well, 24 they said Forensic Scientist II for her as well.</p> <p>25 Our chief toxicologist said, no, I</p>
<p style="text-align: right;">Page 19</p> <p>1 A Um, well, I just love Cleveland. So I 2 wanted to move back home and my husband is actually 3 from this area too. And somehow I saw that there 4 was a position opening back in the toxicology lab 5 here. So I applied for that and got the position 6 and moved back, and then my husband ended up once he 7 finished school coming back here.</p> <p>8 Q When you came back to Cleveland, was it 9 the medical examiner's office then back in 10 July 2010?</p> <p>11 A No, it was still the coroner's office at 12 that point.</p> <p>13 Q When was that changed?</p> <p>14 A I think in 2011.</p> <p>15 Q Okay. So when you came back to Cleveland 16 coroner's office in July 2010, what was your 17 position at that time?</p> <p>18 A Um, I believe back then there still were 19 not any steps. So, um, I think they were calling 20 them forensic scientist at that point, but there was 21 no I, II or III at that point.</p> <p>22 Q Okay. At that time did you have anyone 23 reporting to you, were you supervising anyone else's 24 work?</p> <p>25 A Um, I don't believe so. They don't even</p>	<p style="text-align: right;">Page 21</p> <p>1 had anticipated, I wanted you guys to be IIIs. 2 So then we appealed that and 3 sometime, I want to say maybe around May of 2015 is 4 when the decision on my appeal was made and they 5 decided that I would be a Forensic Scientist III.</p> <p>6 Q Who is the they in the statement you were 7 just making?</p> <p>8 A The personnel review committee, I believe 9 it is the PRC. And it is with the county.</p> <p>10 Q Okay. And you refer to a CPQ, what is 11 that?</p> <p>12 A I don't remember exactly what that stands 13 for, but that was a really long questionnaire that 14 they used to try to determine based off of how the 15 job descriptions were set up. They tried to 16 determine what classification we fell into.</p> <p>17 So we would have to write down what 18 percentage of time we spent doing different tasks 19 and there were questions about do you review other 20 people's data or do you have anybody that directly 21 reports to you, that kind of information.</p> <p>22 So it was a long questionnaire that 23 we filled out.</p> <p>24 Q Who was the other individual in your 25 office who had a similar situation where she was</p>

<p style="text-align: right;">Page 22</p> <p>1 originally determined to be a Toxicologist II, but 2 them was eventually, you know, appealed the decision 3 and became a Toxicologist III? 4 A Her name is Carrie Mazzola. 5 Q Can you spell her last name for us? 6 A M-A-Z-Z-O-L-A. 7 Q And then you have been a Forensic 8 Toxicologist III since that time in 2015? 9 A Yes. 10 Q Now, you told me when you are reviewing 11 your colleagues' work, it is not them reporting to 12 you. Do you actually have anyone who does report to 13 you from a management perspective? 14 A No. 15 Q You mentioned that you review work on 16 assays where you are quote/unquote signed off. Can 17 you explain to us what that means? 18 A You have to go through our entire training 19 procedure. So there's a bunch of steps to it. I 20 mean you read the SOP, which is our standard 21 operating procedure. And that tells you exactly how 22 to run the extractions, how you report it, gives you 23 all the information you need to be able to extract 24 and process that assay. 25 Then there are different steps where </p>	<p style="text-align: right;">Page 24</p> <p>1 off on that assay then reviews your work? 2 A Yes. So we will extract the samples, 3 write up the entire batch of data, plus all the 4 samples that you ran with it, and then someone who 5 is signed off on that assay will review what I have 6 done to agree or disagree and, yeah, check what I've 7 said that I should report on each case. 8 Q Both individuals who are involved in that 9 process have to be signed off on the assay? 10 A Yes. 11 Q And that's true for all cases at the 12 CCMEO? 13 A In toxicology. I don't know what other 14 departments do, but yes. 15 (Deposition Exhibit Number 1 16 marked for identification.) 17 Q (Ms. Ranjan) I'm handing you what's been 18 marked as Exhibit 1. This appears to be a copy of 19 your CV; is that correct? 20 A Yes. 21 Q If you could just flip through it. Let me 22 know if you had a chance to take a look. My next 23 question is going to be if this is up to date? 24 A No, this is not up to date. 25 Q Okay. So what is missing? </p>
<p style="text-align: right;">Page 23</p> <p>1 he would watch somebody who is signed off on that 2 assay perform the assay and they would teach you how 3 you write up that assay. 4 Then there are further steps where 5 you would do an extraction with just calibrators and 6 QC's to see if you can perform the extraction 7 correctly and write up those calibrators and QC's. 8 Q What are QC's? 9 A Quality control samples. 10 Q Okay. 11 A And then beyond that you are given 12 competency cases, which are cases that have already 13 been run by somebody who was signed off on the 14 assay. And you would run a full set with those 15 competency cases and if you pass that portion of it, 16 then you take a quiz and then you are signed off by, 17 well, the QA, so our quality assurance officer. He 18 will provide you with a memo stating that you are 19 approved to run this assay. 20 Um, so that's how you would get 21 signed off on an assay. Did I answer the question? 22 Q You did, thank you. Is it necessary to be 23 signed off on an assay in order to run samples? 24 A Yes. 25 Q And then someone else who has also signed </p>	<p style="text-align: right;">Page 25</p> <p>1 A Um, there are a number of continuing 2 education additions that should be there and I 3 believe publications also. 4 I have the most recent, do you need 5 specifics on what's missing? 6 Q Just generally? 7 A Okay. We also for our ELISA panel, so on 8 the front page it is a 15 drug panel now, not a 13. 9 Q Which two drugs were added? 10 A Zolpidem and Buprenorphine. 11 Q Anything else? 12 A After this one have been made, I was 13 signing out, so I was doing the final review and 14 signing out toxicology reports for cases that were 15 completed. 16 I also was doing administrative 17 review on cases, which I do still do to this day. 18 Q All right. You mentioned final review, 19 can you tell me what that means? 20 A Yeah. So once all of the assays are 21 complete for whatever has been ordered by the 22 doctors or police department, once all the testing 23 is complete, then whoever is going to sign the final 24 report will look at the case file and will review 25 all the data that has been put into the case file </p>

<p>1 for that case.</p> <p>2 You make sure that testing wise we</p> <p>3 have completed everything we said that we have. You</p> <p>4 make sure that the results are correct. You make</p> <p>5 sure that we have screens and confirmations for</p> <p>6 everything that we are saying is there.</p> <p>7 You look at case histories and make</p> <p>8 sure that that makes sense with what we have found.</p> <p>9 To the best of your ability, it doesn't always make</p> <p>10 sense with the case histories, but then you generate</p> <p>11 a final report and you check the final report to</p> <p>12 make sure that everything on the final report is how</p> <p>13 we want it to be reported. And then all of that</p> <p>14 information will go to another reviewer, and that's</p> <p>15 the administrative reviewer. They will then double</p> <p>16 check, mostly the report to make sure that the</p> <p>17 report shows everything that we want it to show.</p> <p>18 Q Who are the administrative reviewers in</p> <p>19 your office?</p> <p>20 A Um, I am an administrative reviewer, our</p> <p>21 supervisor will do administrative reviews.</p> <p>22 Q That's Eric?</p> <p>23 A Eric Lavins.</p> <p>24 Q Lavins.</p> <p>25 A Um, the other two Forensic Scientist III,</p>	Page 26	<p>1 could identify for us which ones they were?</p> <p>2 A Okay. So the Cuyahoga County heroin</p> <p>3 epidemic that top one, that is something that I</p> <p>4 helped Dr. Gilson with. That one appears to be, he</p> <p>5 did a platform presentation at the National</p> <p>6 Association of Medical Examiners Meeting I did not</p> <p>7 review his PowerPoint slides, or however he</p> <p>8 presented that, but there's a publication with the</p> <p>9 same name that goes along with that exact same data</p> <p>10 and I did review that.</p> <p>11 Q Okay.</p> <p>12 A Um, the In Vitro Formation of</p> <p>13 Acetylmorphine from morphine and aspirin on in</p> <p>14 postmortem gastric. That is a publication that I</p> <p>15 was the first author on and I did review that.</p> <p>16 Um, Lingering Opiate Deaths.</p> <p>17 Concentration of opiates in medulla and femoral</p> <p>18 blood. That's another publication that I was first</p> <p>19 author on and I did review that.</p> <p>20 In Vitro Formation of Acetylmorphine</p> <p>21 morphine and aspirin, and gastric contents in water.</p> <p>22 That is a poster presentation that I presented in</p> <p>23 Washington, D.C. I did review that poster.</p> <p>24 Q Is that basically the same information</p> <p>25 that was presented in the paper that you just</p>	Page 28
<p>1 so that is Carrie Mazzola and Szabolc Sofalvi.</p> <p>2 Q Can you spell the name for us?</p> <p>3 MR. GALLUCCI: You didn't know this was</p> <p>4 going to be a spelling test.</p> <p>5 A If I can write it, I can tell you. So</p> <p>6 S-Z-A-B-O-L-C, and Sofalvi, S-O-F-A-L-V-I.</p> <p>7 Q (Ms. Ranjan) Thank you. Anyone else?</p> <p>8 A We have three Forensic Scientist IIs who</p> <p>9 are able to perform administrative reviews and that</p> <p>10 would be John Kucmanic. Do you need a spelling?</p> <p>11 Q Sure, why not.</p> <p>12 A I believe, K-U-C-M-A-N-I-C and Rindi Rico.</p> <p>13 Her first name is R-I-N-D-I.</p> <p>14 Cassandra Clyde, C-L-Y-D-E. And then</p> <p>15 we have one Forensic Scientist I who performs</p> <p>16 administrative reviews, his name is Ian Brooker.</p> <p>17 Q B-R-U-C-K-E-R?</p> <p>18 A B-R-O-O-K-E-R.</p> <p>19 Q One other question about Exhibit 1. If</p> <p>20 you could turn to the last few pages. There's a</p> <p>21 list of publications and presentations?</p> <p>22 A Yes.</p> <p>23 Q You mentioned reviewing some papers in</p> <p>24 preparation for your deposition today. I wonder if</p> <p>25 you see all of those listed here and if so, if you</p>	Page 27	<p>1 mentioned?</p> <p>2 A Yes.</p> <p>3 Q Okay.</p> <p>4 A An Explanation of Lingering Opiate Deaths.</p> <p>5 Relative concentration of opiates in medulla and</p> <p>6 femoral blood following lethal intoxication. That's</p> <p>7 another poster presentation that I presented in</p> <p>8 Boston and I reviewed that.</p> <p>9 Outbreak of Heroin Related Deaths in</p> <p>10 a Major Midwest Metropolitan City. The Cleveland</p> <p>11 experience over a six year period.</p> <p>12 That was another poster presentation</p> <p>13 that was presented in Boston. I actually was not</p> <p>14 the one who stood there and presented it because I</p> <p>15 was at the other poster about the lingering opiate</p> <p>16 deaths. John Wyman, who was our chief toxicologist,</p> <p>17 he stood by that poster for me, but I was the person</p> <p>18 who put together the poster. So I did review that.</p> <p>19 Um, the Alarming Incidence of Heroin</p> <p>20 Deaths in Cuyahoga County. It was a PowerPoint</p> <p>21 presentation that I presented to both, a meeting</p> <p>22 where there were police chiefs from Cuyahoga County</p> <p>23 and also at the second annual OFTA meeting, which is</p> <p>24 the Ohio Forensic Toxicologist Association.</p> <p>25 So I don't know if that PowerPoint, I</p>	Page 29

<p style="text-align: right;">Page 30</p> <p>1 reviewed a PowerPoint, it was one of those. I may 2 have given the exact same PowerPoint for both of 3 those.</p> <p>4 Q Okay.</p> <p>5 A And so I do notice that the dihydrocodeine 6 poster is not included on this CV. Also the one 7 that I was talking about that was, um, discussing 8 explanations, um, for puzzling heroin overdoses, but 9 those are not the exact titles.</p> <p>10 Q That's fine. I can sometimes barely 11 remember what I did yesterday more or less, you 12 know, the title of papers I write.</p> <p>13 A Me too.</p> <p>14 Q You can set that aside for now.</p> <p>15 Okay. Miss Kaspar, we talked a lot 16 about your education and your training and 17 experience. I want to ask you a series of questions 18 now just to understand some of the limitations on 19 that education and experience.</p> <p>20 You're not a medical doctor, are you?</p> <p>21 A No, I'm not.</p> <p>22 Q And you're not a pathologist?</p> <p>23 A I am not.</p> <p>24 Q I know you minored in psychology in 25 college, but you've never practiced psychology?</p>	<p style="text-align: right;">Page 32</p> <p>1 A Yes.</p> <p>2 Q You're not a pharmacist?</p> <p>3 A I'm not.</p> <p>4 Q You are not an expert on addiction?</p> <p>5 A No.</p> <p>6 Q You're not an expert on the causes or 7 treatments for the purpose addiction?</p> <p>8 A No.</p> <p>9 Q You're not an economist?</p> <p>10 A No.</p> <p>11 Q You have no expertise in marketing or 12 advertising?</p> <p>13 A No.</p> <p>14 Q We have talked about several of the 15 articles that you published that rely on your 16 expertise as a toxicologist. You don't have any 17 articles on pain treatment, do you?</p> <p>18 A No.</p> <p>19 Q Or on addiction?</p> <p>20 A No.</p> <p>21 Q Have you published any papers on opioids 22 that we have not already discussed?</p> <p>23 A I don't think so. I was like not first 24 author on a poster I know of that was presented in 25 Dallas and that was on Fentanyl, but first author</p>
<p style="text-align: right;">Page 31</p> <p>1 A No.</p> <p>2 Q You have never been a counselor?</p> <p>3 A No.</p> <p>4 Q You are not a mental health professional?</p> <p>5 A No.</p> <p>6 Q You're not an expert in public health 7 policy?</p> <p>8 A No.</p> <p>9 Q You're not an expert in pain management?</p> <p>10 A No.</p> <p>11 Q Or the treatment of pain?</p> <p>12 A No.</p> <p>13 Q Do you have any training in epidemiology?</p> <p>14 A No.</p> <p>15 Q Do you have any training in pharmacology?</p> <p>16 A I took an online course about 17 pharmacology. It was a three day course.</p> <p>18 Q When was that?</p> <p>19 A That was, I think, the summer of, oh gosh, 20 I don't know. It was after 2015. So maybe 2016. I 21 mean, I can get you the date if I look at my newest 22 CV.</p> <p>23 Q That's okay, I'm just trying to get a 24 general idea when it was. So it was sort of like a 25 continuing education type program?</p>	<p style="text-align: right;">Page 33</p> <p>1 presentations and publications, no.</p> <p>2 Q What was the topic of the Fentanyl poster?</p> <p>3 A It was a review looking back, I think, 4 maybe five years, um, on the Fentanyl cases that our 5 office has seen. And she also wrote up a little bit 6 about the DUID cases that we have had involving 7 Fentanyl.</p> <p>8 Q DUI is driving under the influence?</p> <p>9 A Yes.</p> <p>10 Q Who was the first author on that paper?</p> <p>11 A Carrie Mazzola.</p> <p>12 Q Do you remember approximately the year or 13 the date of the publication?</p> <p>14 A She presented that in 2016. Um, so yeah, 15 2016 I'm guessing is when it was created.</p> <p>16 Q So it looked back at the Fentanyl cases 17 that you had from approximately 2011 to 2016?</p> <p>18 A I don't remember what the years are, but 19 it is probably not, maybe up until 2015 we wouldn't 20 have had the 2016 complete data at that point.</p> <p>21 Q Okay. Have you ever contributed to any 22 CDC reports?</p> <p>23 A No.</p> <p>24 Q Any surgeon general reports?</p> <p>25 A No.</p>

<p style="text-align: right;">Page 34</p> <p>1 Q Have you ever served as an expert witness?</p> <p>2 A Um, I have testified three times in court.</p> <p>3 Q Were all of those in connection with cases</p> <p>4 that came through the medical examiner's office?</p> <p>5 A Yes.</p> <p>6 Q Do you recall the nature of those cases?</p> <p>7 A Um, the first case was a felony DUI and I</p> <p>8 believe I testified at the suppression hearing on</p> <p>9 that case. And the other two were DUIs from local</p> <p>10 municipal courts.</p> <p>11 Q Have you ever given testimony, aside from</p> <p>12 the three cases that you just mentioned?</p> <p>13 A No.</p> <p>14 Q Even in your, you know, your personal</p> <p>15 capacity as just a fact witness?</p> <p>16 A No.</p> <p>17 Q Have you ever been involved in a lawsuit?</p> <p>18 A No.</p> <p>19 Q We have talked briefly earlier about the</p> <p>20 process for getting signed off to perform testing.</p> <p>21 Could you tell us which particular, they're assays</p> <p>22 that you get signed off on; is that correct?</p> <p>23 A Yes.</p> <p>24 Q What assays are you signed off on?</p> <p>25 A I am signed off on the volatiles, I am</p>	<p style="text-align: right;">Page 36</p> <p>1 pathologists or the police departments or lawyers</p> <p>2 who may be calling asking about toxicology results.</p> <p>3 That's probably one of the main differences that he</p> <p>4 deals with.</p> <p>5 Q When did you stop signing off on final</p> <p>6 case reports?</p> <p>7 A Um, it is not that, like I'm still able</p> <p>8 to, but we have a chief toxicologist now who is able</p> <p>9 to sign off of cases. So probably maybe April of</p> <p>10 2018 I probably significantly decreased the amount</p> <p>11 of cases that I was having to sign out.</p> <p>12 Q So there was a time prior to April 2015</p> <p>13 when you had no chief toxicologist; is that right?</p> <p>14 A Right.</p> <p>15 Q Approximately how long was that period?</p> <p>16 A Um, I think that, so Dr. Schueler was the</p> <p>17 chief toxicologist prior to Dr. Apollonio</p> <p>18 Dr. Schueler left our office, I believe, July of</p> <p>19 2017.</p> <p>20 Um, and then Dr. Apollonio began</p> <p>21 working in our office in February of 2018.</p> <p>22 Q Again, I'm a little bit confused about the</p> <p>23 timing, so I want to clarify.</p> <p>24 So it was approximately July 2017</p> <p>25 until February 2018 when there was no chief</p>
<p style="text-align: right;">Page 35</p> <p>1 signed off on the ELISA screen, the acetaminophen</p> <p>2 and salicylate color test.</p> <p>3 The opiate confirmation. The</p> <p>4 benzodiazepine confirmations in blood and urine.</p> <p>5 The AMEIN confirmation, the Fentanyl confirmation,</p> <p>6 the cannabinoid confirmations in both blood and</p> <p>7 urine. The cocaine confirmations. I think that is</p> <p>8 everything.</p> <p>9 Q Okay. You described for us earlier that</p> <p>10 you have a supervisor named Eric Lavins, I believe?</p> <p>11 A Yes.</p> <p>12 Q And that your, you directly report to the</p> <p>13 chief toxicologist; is that correct?</p> <p>14 A Well, we report to Eric as a supervisor,</p> <p>15 but we also are able to go to the chief</p> <p>16 toxicologist, he's the head of the department.</p> <p>17 So more like personnel issues you go</p> <p>18 to Eric and then toxicology issues you could go to</p> <p>19 either Eric or Dr. Apollio.</p> <p>20 Q So generally speaking, how do Eric's</p> <p>21 duties differ from yours?</p> <p>22 A Eric does, well, Eric has been signing off</p> <p>23 on final case reports and I'm typically not doing</p> <p>24 that any more.</p> <p>25 Um, Eric will talk to a lot of the</p>	<p style="text-align: right;">Page 37</p> <p>1 toxicologist, right?</p> <p>2 A Yes.</p> <p>3 Q And then prior to July of 2017, how long</p> <p>4 was Dr. Schueler the chief toxicologist?</p> <p>5 A Um, he began working at our office in, I</p> <p>6 think, the summer of 2014.</p> <p>7 Q Do you know why he left?</p> <p>8 A He left to go teach down at Ohio Northern</p> <p>9 University.</p> <p>10 Q Who was the chief toxicologist prior to</p> <p>11 Dr. Schueler?</p> <p>12 A Dr. Wyman.</p> <p>13 Q When did he become the chief toxicologist?</p> <p>14 A I'm not sure because I was in Maryland</p> <p>15 when he started. Um, I think, though, that it was</p> <p>16 2010. I think he came earlier in 2010.</p> <p>17 Q Are you in charge of any particular units</p> <p>18 or segments of the toxicology office?</p> <p>19 A No.</p> <p>20 Q I have seen in people's signature line it</p> <p>21 says, regional toxicology office, something of that</p> <p>22 nature. Can you explain to me what that means?</p> <p>23 A Yeah, so we are the Cuyahoga County</p> <p>24 Medical Examiner's Office, but we are also the</p> <p>25 Cuyahoga County Regional Forensic Science</p>

<p style="text-align: right;">Page 38</p> <p>1 Laboratory. And that is in regards to the police 2 work that we do.</p> <p>3 Q So you do work for the Cuyahoga County 4 Medical Examiner's Office, correct?</p> <p>5 A Yes.</p> <p>6 Q And you do work for the Cuyahoga County 7 Police Office?</p> <p>8 A Cuyahoga County Regional Forensic Science 9 Laboratory.</p> <p>10 Q But you just mentioned police cases, which 11 police unit or office or department are you serving?</p> <p>12 A Um, so I believe all of the police 13 departments in Cuyahoga County. So all of the 14 individual cities they will send their DUI or drug 15 facilitated sexual assault samples to our office.</p> <p>16 There are some municipalities outside 17 of Cuyahoga County that will also send them to us, 18 but for the most part it is the cities in Cuyahoga 19 County and then we will get stuff from the Cuyahoga 20 County Sheriff's Office.</p> <p>21 Q Okay. Do you handle work for any other 22 entities?</p> <p>23 A Um, with the medical examiner's office, we 24 will get cases from other counties.</p> <p>25 Q So other counties medical examiner's</p>	<p style="text-align: right;">Page 40</p> <p>1 other counties to do testing for them?</p> <p>2 A I believe that we do.</p> <p>3 Q Do you have any idea how much?</p> <p>4 A No, I don't.</p> <p>5 Q So you wouldn't be able to tell me for 6 instance how the medical examiner's office is 7 funded?</p> <p>8 A No. I know the county provides money to 9 our office from taxpayers money I'm assuming, but 10 that's all I know.</p> <p>11 Q If we wanted details about the annual 12 budget or how it is spent, you wouldn't be the most 13 knowledgeable person to ask about that?</p> <p>14 A No.</p> <p>15 Q Okay. How often do you use reference 16 labs?</p> <p>17 A We use them frequently. Um, just as 18 needed. So there is a suspected drug that we know 19 that we don't have a test for or that we can only 20 qualitatively detect, we will send them out to a 21 reference lab.</p> <p>22 Q What types of samples would that typically 23 entail?</p> <p>24 A Um, typically, a femoral blood or some 25 sort of blood specimen we would send.</p>
<p style="text-align: right;">Page 39</p> <p>1 office's samples?</p> <p>2 A Yes.</p> <p>3 Q Anything else?</p> <p>4 A No. We have the ability to accept cases 5 from other places, but I can't, I think at one point 6 Stark County submitted some samples to us that they 7 wanted us to look for maybe carfentanil or 8 something. So it was something that they were not 9 able to detect down there and they sent samples to 10 us.</p> <p>11 So occasionally something like that 12 will come along, but that's not typically somewhere 13 where we would receive cases from.</p> <p>14 Q Okay. So aside from those one off kind of 15 cases, which jurisdictions outside of Cuyahoga 16 County do you typically receive samples from?</p> <p>17 A Um, occasionally we will get them from 18 Lake County, we get them from Geauga County, 19 Ashtabula County, Mahoning County, um, I've seen 20 Lorraine County, but that's not frequent. I am sure 21 there are ones I'm missing, but.</p> <p>22 Q Do you have any visibility into the 23 offices budget?</p> <p>24 A No, I don't.</p> <p>25 Q Do you have any idea if you charge those</p>	<p style="text-align: right;">Page 41</p> <p>1 Q Is there any type of particular substance 2 that usually necessitates the use of a reference 3 lab? Like how do you determine that you want to 4 send it out to a reference lab?</p> <p>5 A So sometimes we'll know when we receive 6 the case from the pathologist that they're looking 7 for specific drugs based on maybe the medications 8 that were found on scene.</p> <p>9 So if there's a specific drug that 10 the pathologist is interested in that we know we 11 don't see in our assays or cannot quantitate, then 12 we will send that out.</p> <p>13 We may also just from our in-house 14 testing come across any analyte that we are not able 15 to report. And if the pathologist feels like they 16 want us to follow-up on it, then we will send that 17 sample out.</p> <p>18 Q Can you give me some examples of when that 19 happens?</p> <p>20 A Um, there are, for instance, some 21 antidepressants that we don't see. So like 22 duloxetine is something that we don't currently 23 detect. They may have seen it in our blood base 24 screen, but we cannot quantitate it in our lab.</p> <p>25 So if there was a case that had that</p>

<p style="text-align: right;">Page 42</p> <p>1 in the meds or that we found through our base 2 screen, then we would send that to typically NMS, 3 which is the National Medical, maybe sciences, they 4 are in Pennsylvania.</p> <p>5 Q That's okay, you don't have to guess.</p> <p>6 Has the use of reference labs changed 7 over time at all since you have been back since 8 2010?</p> <p>9 A I early on in my career did not know of 10 what we were sending to reference labs. So I have 11 no idea whether or not we have been using them more 12 or less.</p> <p>13 Q Okay. When did that change happen, when 14 did you become aware of the use of reference labs, 15 was that around the time you became a Toxicologist 16 III?</p> <p>17 A Yeah, when Dr. Schueler was there, well, 18 also I was pregnant. So they were trying to keep me 19 out of the lab. They were giving me more duties 20 that were administrative. So I would check the send 21 out, um, forms that we were sending out. So, yeah, 22 it became more clear to me how frequently we were 23 using them.</p> <p>24 Q Approximately when was that?</p> <p>25 A Um, that was in 2014. Probably the fall</p>	<p style="text-align: right;">Page 44</p> <p>1 provides just some general background on the 2 Cuyahoga County, what was the coroner's office at 3 that point in time in the toxicology department. I 4 want to walk through a little bit of it with you.</p> <p>5 If you could turn towards the front, 6 there's a slide called types of cases?</p> <p>7 A Yes.</p> <p>8 Q And we talked briefly about some of the 9 type of cases that you handle, but they're listed 10 here as accidental deaths, homicide, suicide, 11 occupational deaths, sudden deaths, special 12 circumstance deaths, therapeutic deaths, any death 13 where there is doubt, question or suspicion, police 14 cases, out of county cases, probation cases, 15 proficiency cases, does this generally summarize the 16 type of cases that come through the toxicology 17 office?</p> <p>18 A Yes.</p> <p>19 Q In general, the Cuyahoga County Medical 20 Examiner's Office receives cases where there is 21 suspicion about the nature of the death; is that 22 right?</p> <p>23 A Typically. For instance, like an 24 occupational death, there may not be suspicion, but 25 just because it occurred in the work place, it is in</p>
<p style="text-align: right;">Page 43</p> <p>1 of 2014.</p> <p>2 Q It is funny how you once you have kids, 3 they become an easy marker for all the times in your 4 life?</p> <p>5 A Yeah.</p> <p>6 (Deposition Exhibit Number 2 7 marked for identification.)</p> <p>8 Q (Ms. Ranjan) I'm handing you what has 9 been marked as Exhibit 2. If you would take a look 10 at the first page of the document. It appears to be 11 an email from Eric Lavins to you?</p> <p>12 A Yes.</p> <p>13 Q Dated December 14th, 2010?</p> <p>14 A Yes.</p> <p>15 Q And there's an attachment that appears to 16 be a PowerPoint presentation?</p> <p>17 A Okay.</p> <p>18 Q If you could just take a look at the 19 presentation. I don't have questions about every 20 slide, but my first question is going to be, does 21 this look familiar to you?</p> <p>22 A So it is a presentation that Eric made. I 23 mean, I don't specifically remember looking at this, 24 but if he sent it to me, I probably did.</p> <p>25 Q So I believe that the presentation</p>	<p style="text-align: right;">Page 45</p> <p>1 our jurisdiction.</p> <p>2 Q So it could be a suspicious death or maybe 3 an accidental death?</p> <p>4 A Yes.</p> <p>5 Q Are there any other general types of cases 6 that you might handle that come to mind that aren't 7 listed here?</p> <p>8 A No, I think this is pretty inclusive.</p> <p>9 Q If you could turn to the next page. It is 10 titled what we do not do. And it says, we do not 11 act as generalists, performing all different types 12 of science. Like you might see on Bones, CSI, Law & 13 Order.</p> <p>14 Did I read that correctly?</p> <p>15 A Yes.</p> <p>16 Q And also says, you don't arrest criminals, 17 right?</p> <p>18 A Right.</p> <p>19 Q You don't provide instantaneous results 20 with a push of the button, right?</p> <p>21 A Yes.</p> <p>22 Q And you don't always get the evidence or 23 the results you need, right?</p> <p>24 A Yes.</p> <p>25 Q Can you think of an instance where that</p>

<p>1 happened?</p> <p>2 A Where we did not get the evidence or</p> <p>3 result that we need?</p> <p>4 Q Yeah.</p> <p>5 A Um, I would say in cases where the</p> <p>6 decedent is very decomposed, we may not be able to</p> <p>7 get toxicology results that are meaningful.</p> <p>8 Q Okay. If you could flip further on the</p> <p>9 presentation to the slide entitled toxicology, why</p> <p>10 do it.</p> <p>11 A Okay.</p> <p>12 Q The first bullet point discusses</p> <p>13 postmortem forensic toxicology. I will just read</p> <p>14 it. It says, postmortem forensic toxicology, which</p> <p>15 determines the absence or presence of drugs and</p> <p>16 their metabolites, chemicals such as ethanol and</p> <p>17 other volatile substances, carbon monoxide and other</p> <p>18 gases, metals, and other toxic chemicals in human</p> <p>19 fluids and tissues. And evaluates their role as a</p> <p>20 determinant or contributory factor in the cause and</p> <p>21 manner of death.</p> <p>22 Did I read that properly?</p> <p>23 A Yes.</p> <p>24 Q Generally speaking, does that encompass</p> <p>25 the bulk of the work that you do?</p>	Page 46	<p>1 Q Okay. But what this discusses is that</p> <p>2 there were 3,000, approximately 3,500 cases, but on</p> <p>3 those 3,500 cases, you performed 22,600 roughly</p> <p>4 tests; is that right?</p> <p>5 A Yes, that's how I am reading that.</p> <p>6 Q Okay. And in that same year you received</p> <p>7 702 cases from police departments and other</p> <p>8 jurisdictions and that sort of thing?</p> <p>9 A Yes.</p> <p>10 Q Do you have any idea about today what the</p> <p>11 volume of cases that you handle looks like?</p> <p>12 A Um, I don't know exact numbers. I want to</p> <p>13 say for the IN cases we call them, which are the</p> <p>14 Cuyahoga County postmortem cases, I want to say we</p> <p>15 are around 2,500 typically for the year.</p> <p>16 The police cases roughly 500 a year.</p> <p>17 The outside, the cases from county's that are not</p> <p>18 Cuyahoga County, I guess roughly 400 some. I do not</p> <p>19 know how many tests we have performed on all of</p> <p>20 those though.</p> <p>21 Q Okay. And I recognize that those are</p> <p>22 approximate figures?</p> <p>23 A Yeah.</p> <p>24 Q What are you basing that information on?</p> <p>25 A I'm just trying to remember because we</p>	Page 48
<p>1 A Yes.</p> <p>2 Q And on the third bullet point, forensic</p> <p>3 urine drug testing, which determines the absence or</p> <p>4 presence of drugs and their metabolites in urine to</p> <p>5 demonstrate prior use or abuse.</p> <p>6 Did I read that properly?</p> <p>7 A Yes.</p> <p>8 Q And that's also something that is within</p> <p>9 your scope of work at the CCMEO?</p> <p>10 A We do perform drug testing on urine, but I</p> <p>11 feel that the human performance forensic toxicology</p> <p>12 fits better with what we do. So we do postmortem</p> <p>13 and we do human performance, which would be the DUI</p> <p>14 cases that we're testing.</p> <p>15 Forensic urine drug testing may be</p> <p>16 more of a work place testing, but we do perform</p> <p>17 toxicology on urine though.</p> <p>18 Q Okay. If you could to the slide labeled</p> <p>19 2006 toxicology statistics workload. The slide</p> <p>20 discusses there were 3,563 toxicology coroner cases</p> <p>21 tested and 22,658 tests performed on coroner's</p> <p>22 specimens. I just wanted to understand these</p> <p>23 figures. I realize 2006 was, you were there in</p> <p>24 2006?</p> <p>25 A Yes.</p>	Page 47	<p>1 give each case an internal laboratory number and</p> <p>2 they go numerically. So I was just trying to</p> <p>3 remember how many we had from last year.</p> <p>4 Q Okay. If you could turn to the slide</p> <p>5 labeled toxicology laboratory analytical scheme.</p> <p>6 Right there, yeah.</p> <p>7 So I believe that this slide is meant</p> <p>8 to walk us through how a case comes into the</p> <p>9 toxicology, I will call it division, office, what do</p> <p>10 you call it?</p> <p>11 A Laboratory.</p> <p>12 Q Okay. So how a case comes into the</p> <p>13 toxicology laboratory and then how it sort of makes</p> <p>14 it way out of the toxicology laboratory.</p> <p>15 Is that your understanding of this</p> <p>16 slide?</p> <p>17 A Yes.</p> <p>18 Q Okay. So it starts out where the specimen</p> <p>19 is received. Tell me a little bit about that. How</p> <p>20 do you first become involved in a case that is a</p> <p>21 medical examiner case?</p> <p>22 A Um, do you mean me specifically or do you</p> <p>23 just want me to walk through these steps of how a</p> <p>24 case comes into our lab.</p> <p>25 Q Sure. You could just explain it generally</p>	Page 49

<p>1 for me first.</p> <p>2 A Okay. So the specimen is received and we 3 call that accessioning.</p> <p>4 So we have a laboratory aide who does 5 most of the accessioning right now. So the 6 specimens, if an autopsy was done in our office, 7 these specimens will come down on a dumbwaiter from 8 the autopsy suite.</p> <p>9 If the case, so some cases that come 10 into our office they decide they do not need to do 11 autopsy on, but they will still draw biological 12 specimens. Those cases we call nonpost cases and we 13 receive those from a locked refrigerator down in the 14 receiving department.</p> <p>15 Um, for police cases, the officers 16 may drop it off during office hours and actually 17 come up to the laboratory and hand us the specimens.</p> <p>18 If it is after hours, the receiving 19 staff will receive the samples and then put them 20 into our locked refrigerator.</p> <p>21 So once we have received the samples, 22 we accession them into the computer. So everything 23 is given an individual case number each case has a 24 separate number.</p> <p>25 And our computer system is called</p>	<p>Page 50</p> <p>1 what they have sent down to us. And then we check 2 off what we have received and the volumes of what we 3 have received. On the back side of that sheet is 4 where the pathologist will note whatever testing 5 they have requested.</p> <p>6 They will also, if they have any idea 7 of something that they're suspecting that could be 8 the cause of death, they can write that on a 9 particular line and they can also mark, um, if they 10 have any feeling as to what the manner of death 11 would be at that point.</p> <p>12 So it's all, that they're filling 13 out, um, either after the autopsy is complete.</p> <p>14 Sorry, or if it is a nonpost, we still receive the 15 chain of custody stating how many samples we have 16 received, but since no internal examination was 17 done, they are basing their information off of case 18 history. So maybe medical records they have 19 received or information from family.</p> <p>20 Um, and the back of the nonpost case 21 or checklist also will state what kind of testing 22 they would like.</p> <p>23 The police cases have a separate 24 chain of custody, but it has the same information.</p> <p>25 It is saying who dropped off the sample, how many</p>
<p>Page 51</p> <p>1 Pathways and each specimen that we receive will be 2 logged into Pathways, and then the testing that's 3 been requested by either the pathologist or the 4 police department will be added to the correct 5 specimens at that point at accessioning.</p> <p>6 Q If I could interrupt for a second. The 7 accessioning process that you just described, so 8 that's where there's a pathologist or someone who 9 performs pathology type of function extracting 10 samples from the body, is that accurate?</p> <p>11 A So either up at autopsy they have 12 collected samples and then sent them down to our 13 laboratory or the nonposted samples where they don't 14 do the autopsy, a member of the receiving staff will 15 do a blood draw.</p> <p>16 Q Okay.</p> <p>17 A And also they will, um, pull any vitreous 18 humor from the eyes that they are able to.</p> <p>19 Q Okay. You can continue.</p> <p>20 A So the chain of custody check. I'm 21 assuming that's just speaking of all of the samples 22 that we receive into our laboratory come along with 23 a chain of custody.</p> <p>24 So if it is coming from the medical 25 examiner side, we have a chain of custody showing</p>	<p>Page 53</p> <p>1 samples they dropped off to our office and what time 2 of day they did that, who they gave those samples to 3 in our office.</p> <p>4 Um, they request on that chain of 5 custody what testing they want and then, um, whoever 6 logs the case into the computer, into our Pathway 7 system, that all goes on the chain of custody also.</p> <p>8 Q And so for the chain of custody, I'm 9 sorry, strike that, let me start over.</p> <p>10 So each case receives a case number 11 regardless of whether it is a medical examiner case 12 or a police case; is that right?</p> <p>13 A Yes.</p> <p>14 Q And all of those cases go into the Pathway 15 system that you mentioned earlier, regardless of 16 which type of case it is?</p> <p>17 A Yes.</p> <p>18 Q Okay, great. You can continue, thanks?</p> <p>19 A So then it says screening test. Typically 20 you are going to perform the screening test in order 21 to determine what kind of confirmation testing you 22 need.</p> <p>23 Um --</p> <p>24 Q Does the pathologist make the decision 25 which screening test to run or you, the</p>

<p>1 toxicologist?</p> <p>2 A They initially do. So they will choose 3 what kind of testing they want. We have an option 4 that is basic toxicology where they're only going to 5 get an ELISA screen. Based on the result of that 6 screen, then further confirmation testing will be 7 performed. So they don't have to specify any 8 further than that. It is just goes with what was 9 positive from the screen.</p> <p>10 Q So just, I'm sorry, to make sure that the 11 answer is clear. So it is the pathologist who 12 determines which screening test to run?</p> <p>13 A Yes. So there is one called comprehensive 14 that will order more testing from us. So, yes, 15 upfront they determine what testing they feel is 16 necessary for them to have a better idea of what 17 caused this person's death.</p> <p>18 Q They, being the pathologist?</p> <p>19 A Yes. If along the way we find something 20 that we feel like needs to be pursued but wasn't 21 necessarily part of their original testing, 22 typically Eric or Dr. Apollonio will then speak with 23 the pathologist and determine if they want us to 24 further pursue whatever it is we detected.</p> <p>25 Q Okay. Great. You can continue?</p>	<p>Page 54</p> <p>1 A Yes.</p> <p>2 Q And the ELISA testing you have been 3 mentioning to me is a screening test?</p> <p>4 A Yes.</p> <p>5 Q And the screening test or the ELISA test 6 does not tell you the quantity of the drug in the 7 sample, correct?</p> <p>8 A No, it does not.</p> <p>9 Q Okay. Continue.</p> <p>10 A So to the left side of the slide under 11 screen test it is saying that if the screen came 12 back negative, then we don't have any further 13 testing to perform and then the report is issued.</p> <p>14 And then eventually the samples are 15 put over into our freezer for the long term storage.</p> <p>16 Q Do you know how long you keep those?</p> <p>17 A We have been keeping them a year.</p> <p>18 Q Has that policy changed at all recently?</p> <p>19 A I don't believe so.</p> <p>20 Q Is there any particular type of case that 21 you might keep longer than one year?</p> <p>22 A There are cases where the pathologist can 23 request for the samples to be kept indefinitely. So 24 we have those called permanent saves.</p> <p>25 We may have been keeping the out of</p>
<p>Page 55</p> <p>1 A Okay. So the screening test, for 2 instance, would be like that 15 panel ELISA. So 3 from that, the ELISA is telling us presumptive 4 positive or negatives for 15 different plates. Some 5 of them are specific to a certain drug. So we have 6 a PCP specific plate.</p> <p>7 Other ones are specific to a drug 8 class. So we have an opiate plate that will give us 9 positive results for a number of opiate drugs.</p> <p>10 We have a cocaine plate, which is 11 again more specific to cocaine.</p> <p>12 We have a benzodiazepine plate, which 13 is going to tell us that there's a benzo there, but 14 this we don't know what benzo is there.</p> <p>15 So based off of the screening 16 results, further confirmations are, we call it they 17 are bumped up. So the testing is added.</p> <p>18 Um, and that would be, um, to either 19 confirm the presence of the specific drug that the 20 plate said was there or to confirm that presumptive 21 positive, but also determine which actual opiate is 22 present and how much of that is present.</p> <p>23 Q So the screening test is an initial result 24 that then needs to be verified through further 25 testing, is that accurate?</p>	<p>Page 55</p> <p>1 county cases longer than a year, but I do not 2 remember what that length of time was.</p> <p>3 Q Okay. So then going back up, assuming 4 that the screening test came back positive instead 5 of negative. After that, that's when you would run 6 of those confirming tests that you mentioned?</p> <p>7 A Yes. And then once all the confirmation 8 testing is complete, then again the report would be 9 issued and then the specimens would be placed in the 10 storage.</p> <p>11 Q And the nature of the confirming test that 12 you run would depend on the screening result that 13 you received in the first step?</p> <p>14 A Yes.</p> <p>15 Q In your toxicology office, is it the same 16 individual who receives that paperwork and those 17 samples who then issues the report at the back end 18 of the process?</p> <p>19 A No. The person who receives, you are 20 talking about when the sample comes into the 21 laboratory?</p> <p>22 Q Correct.</p> <p>23 A That is typically our laboratory assistant 24 who will receive all of those cases and put them 25 into our Pathway system.</p>

<p>1 is that right?</p> <p>2 A Yes.</p> <p>3 Q And for carfentanil the answer is the same</p> <p>4 that there has been false negatives in the past?</p> <p>5 A Um, yes, carfentanil specifically. The</p> <p>6 first question that you asked Fentanyl and Fentanyl</p> <p>7 analogues?</p> <p>8 Q Yes.</p> <p>9 A Yeah, I was considering carfentanil a</p> <p>10 Fentanyl analogue.</p> <p>11 Q Perfect. Thank you for that explanation.</p> <p>12 I'm going to jump several slides.</p> <p>13 There's one where there is some pictures of some</p> <p>14 individuals doing some testing it looks like. That</p> <p>15 one right there. Is that your laboratory at CCMEO?</p> <p>16 When I say CCMEO, do you understand that I mean the</p> <p>17 Cuyahoga County Medical Examiner's Office?</p> <p>18 A Yes. The right-hand upper picture appears</p> <p>19 to be in our laboratory. I do not know where that</p> <p>20 left-hand lower picture is.</p> <p>21 Q Okay. Are these the benches that you</p> <p>22 described earlier?</p> <p>23 A Um, so the benches I was talking about are</p> <p>24 more of a hypothetical bench, that's what we call a</p> <p>25 grouping of tests. But yes, he is specifically at a</p>	Page 62	<p>1 A I don't know of any in our laboratory, but</p> <p>2 I am sure it could happen.</p> <p>3 Q (Ms. Ranjan) Okay. The next slide says,</p> <p>4 blood equals current, urine equals historical.</p> <p>5 You told me earlier that you do run</p> <p>6 testing on both blood and urine samples; is that</p> <p>7 right?</p> <p>8 A Yes.</p> <p>9 Q And how is a determination made whether</p> <p>10 blood or urine should be tested in any particular</p> <p>11 case?</p> <p>12 A Um, well, in some cases, specifically the</p> <p>13 police cases, we might only get a blood. So then,</p> <p>14 obviously, we are only performing a blood.</p> <p>15 We have certain assays that go on</p> <p>16 specific samples. Um, so for instance, one of our</p> <p>17 screening techniques is the urine base assay. So</p> <p>18 that's always performed on urine. If we have a</p> <p>19 urine on the case and if they ordered the</p> <p>20 comprehensive testing, they will get a urine base.</p> <p>21 Um --</p> <p>22 Q They, being the pathologist?</p> <p>23 A Yeah, whoever ordered the testing.</p> <p>24 Q Okay. I think unless I specifically</p> <p>25 mention otherwise, we were discussing the toxicology</p>	Page 64
<p>1 bench in the laboratory.</p> <p>2 Q Okay. So bench is your word for</p> <p>3 describing the set of tests that are done by a</p> <p>4 particular person or group of people?</p> <p>5 A Yes.</p> <p>6 Q If you could flip two more slides that</p> <p>7 describes the confirmation analysis. That's the</p> <p>8 second step in the testing procedure that we have</p> <p>9 been discussing; is that right?</p> <p>10 A Yes.</p> <p>11 Q So that utilizes the second analytical</p> <p>12 procedure with increased specificity, I will get it</p> <p>13 out in a second, an increased sensitivity; is that</p> <p>14 right?</p> <p>15 A Yes.</p> <p>16 Q And this slide says, no false positive</p> <p>17 results. Do you believe that to be true?</p> <p>18 A I mean that specific statement is most</p> <p>19 likely not true. I believe that he made that,</p> <p>20 again, stating you want your confirmation analysis</p> <p>21 to have as few false positives as you can.</p> <p>22 Q But there are instances where you might</p> <p>23 get a false positive; is that right?</p> <p>24 A Um --</p> <p>25 MR. GALLUCCI: Object to form.</p>	Page 63	<p>1 testing from here out. Let's assume we are talking</p> <p>2 about the medical examiner cases?</p> <p>3 A Okay.</p> <p>4 Q So in those instances it would be the</p> <p>5 pathologist who is ordering that testing?</p> <p>6 A Yes.</p> <p>7 Q Okay. Great.</p> <p>8 A Yes. So like I was saying, based on what</p> <p>9 they order, the testing goes on specific specimen</p> <p>10 and it depends on what specimen we receive for that</p> <p>11 case.</p> <p>12 So the ELISA is only validated to run</p> <p>13 on blood specimens or liver or vitreous, not on</p> <p>14 urine. So you would not put an ELISA on a urine.</p> <p>15 Q Do toxicologists collaborate with the</p> <p>16 pathologist to determine which samples to test for</p> <p>17 each case?</p> <p>18 A We will if there is extremely limited</p> <p>19 sample volume.</p> <p>20 Then sometimes we will discuss with</p> <p>21 them what the plan is for the testing. So the ELISA</p> <p>22 screen only takes 50 microliters of blood, which is</p> <p>23 an extremely small amount of blood. We can get a</p> <p>24 lot of presumptive information from a very small</p> <p>25 amount of blood.</p>	Page 65

<p>1 So then we could go to them and tell 2 them the results from that ELISA and ask them to 3 prioritize what they would like us to prioritize for 4 the confirmations.</p> <p>5 Q Okay. But in the general case it is the 6 pathologist who is determining which samples to draw 7 and which screening tests to run?</p> <p>8 A Yes. They decide at autopsy what to draw, 9 but on most of the cases it is the same sample. So 10 they must have protocol on what they are to draw up.</p> <p>11 Q Do you know if they have a protocol?</p> <p>12 A I do not know that.</p> <p>13 Q Okay. Are you familiar with the concept 14 of redistribution?</p> <p>15 A Yes.</p> <p>16 Q In blood?</p> <p>17 A Yes.</p> <p>18 Q Can you explain for the benefit of the 19 jury what redistribution is?</p> <p>20 A Um, I am not the most familiar person with 21 it, so if you want very specific, then you would 22 want Dr. Apollonio. Redistribution basically is 23 that when a person passes away, the drug specimens 24 can redistribute from the blood to other tissues of 25 the body.</p>	Page 66	<p>1 select a general, either a basic toxicology or 2 comprehensive toxicology, and then the laboratory 3 assistant will add the specific tests that go along 4 with whatever was checked off on the back.</p> <p>5 Q Okay. Do you receive any other 6 documentation along with the samples?</p> <p>7 A Not from autopsy. But we have a program 8 calmed Vertiq.</p> <p>9 Q Is that V-E-R-T-I-Q?</p> <p>10 A Yes. That is a software that every 11 department in the building utilizes. And we will 12 use that because we can get the case history from 13 that. So when the investigator goes on scene or 14 whatever information they gathered, that will go 15 into a location that we can see. So it is not 16 something that you specifically are handed on each 17 case, but we have access to that on each case.</p> <p>18 Q Do you review the investigator's report 19 for every case that you run toxicology testing on?</p> <p>20 A Not every case. I will review them when I 21 feel that I need to be able to make decisions about 22 further testing.</p> <p>23 Q When would that happen?</p> <p>24 A Um, when I am writing up a set of, let's 25 say specifically opiates, if I feel -- so if they</p>	Page 68
<p>1 Q And so sometimes it is important that you 2 draw samples from the correct area of the body in 3 order to get the best results; is that right?</p> <p>4 A Yes.</p> <p>5 Q Do you know what CCMEO does to insure that 6 they are test thing the best samples that they can 7 to address the issue of redistribution?</p> <p>8 A I do not know. I think that would be 9 something in the pathology department that they have 10 some sort of maybe standard operating procedure on 11 how to collect the best samples.</p> <p>12 Q It would be best for us to talk to one of 13 the pathologists about that issue?</p> <p>14 A Yes.</p> <p>15 Q When you received, when the forensic 16 assistant receives the samples and then they're 17 passed along to the toxicologists in your 18 laboratory, assigned from you mentioned one form you 19 received with that, which I think was some sort of 20 an order form; is that right?</p> <p>21 A Yeah, it is our chain of custody and the 22 testing requests form.</p> <p>23 Q Okay. And then that tells you which tests 24 to run on those samples; is that right?</p> <p>25 A Um, not specifically. It just, they will</p>	Page 67	<p>1 give us a history that this person is a heroin user, 2 and, um, I find codeine and morphine only in my 3 femoral blood sample that, so seeing the codeine and 4 morphine would give me a hint that possibly this 5 person had been using heroin. I would look at their 6 case history and I would see, okay, they are a known 7 heroin user.</p> <p>8 And then at that point I would bump a 9 further specimen to test, typically the vitreous 10 humor. So that I can attempt to detect the 11 6-acetylmorphine, which is the metabolite that 12 definitively states that heroin was used.</p> <p>13 Q So it is fair to say then that the scene 14 investigation provides critical context for 15 toxicology testing?</p> <p>16 A Yes.</p> <p>17 Q For example, the presence of drug 18 paraphernalia might tell you you need to run further 19 tests?</p> <p>20 A Yes.</p> <p>21 Q What you just described?</p> <p>22 A Yes.</p> <p>23 Q Is it also true that collecting illicit 24 substances from the death scene could inform your 25 toxicology analysis?</p>	Page 69

<p>1 A Yes.</p> <p>2 Q How so?</p> <p>3 A Um, so we have the drug chemistry</p> <p>4 department in our building and, um, I don't know</p> <p>5 what percentage of the time, but a decent percentage</p> <p>6 of the time they will receive paraphernalia from the</p> <p>7 scene of these deaths or actual drug from the scene</p> <p>8 of the deaths. And we use that to compare with what</p> <p>9 we found.</p> <p>10 If we see something on the drug</p> <p>11 chemistry report that is something that we are not</p> <p>12 able to detect in our laboratory and we feel that it</p> <p>13 would be important, an important addition to help</p> <p>14 with the cause of death, then that could be</p> <p>15 something we might send out for, or it will, you</p> <p>16 know, just act as a confirmation to the stuff that</p> <p>17 we found also. We say we found heroin, they found</p> <p>18 heroin, so good, we are matching up.</p> <p>19 Q Is that a part of your standard operating</p> <p>20 procedure for medical examiner cases? Do you always</p> <p>21 check whatever is found at the scene with drug</p> <p>22 paraphernalia or drugs are found at the scene?</p> <p>23 A Um, it is not part of the standard</p> <p>24 operating procedure, but I would say typically the</p> <p>25 analysts are looking at that and if not the</p>	<p>Page 70</p> <p>1 change on January 2nd?</p> <p>2 A Yes. Other than when I was on maternity</p> <p>3 leave or pregnant with my two children, I have been</p> <p>4 performing the opiate assay since 2010.</p> <p>5 Q So it is fair to say then that the</p> <p>6 presence of drugs or drug paraphernalia at a death</p> <p>7 scene can be, um, more important in some cases than</p> <p>8 it is than others, right?</p> <p>9 MR. GALLUCCI: Objection to form,</p> <p>10 foundation.</p> <p>11 Q (Ms. Ranjan) You described earlier that</p> <p>12 you -- there's some cases where you look for that</p> <p>13 drug paraphernalia at a scene, where you look for,</p> <p>14 you know, the results of the drug testing, drug</p> <p>15 chemistry that was found at a scene. Where you</p> <p>16 might specifically seek that out if the results are</p> <p>17 in Pathways. Can you describe that kind of a case</p> <p>18 to me, what would be, what kind of case would, what</p> <p>19 kind of case would you find yourself seeking out</p> <p>20 that drug chemistry if it is not loaded in Pathways?</p> <p>21 A Um, I would say when we have very limited</p> <p>22 sample. We would want to see what they have</p> <p>23 detected so that we can focus our testing so that we</p> <p>24 can use our sample as best as we possibly can.</p> <p>25 Q Are there any other instances?</p>
<p>1 analysts, then the person reviewing the data.</p> <p>2 They're not always loaded into our</p> <p>3 Pathway, so they do have the ability to load the PDF</p> <p>4 file or whatever drug chemistry finds.</p> <p>5 Sometimes we have either beaten them</p> <p>6 to it, so we have gotten our results before they</p> <p>7 have, or there might just be a lag in them being</p> <p>8 loaded.</p> <p>9 If we were really concerned about it,</p> <p>10 we could call them and see if they have results on</p> <p>11 that case, but not all of our cases have drug</p> <p>12 chemistry submissions.</p> <p>13 Q For the cases that do have drug chemistry</p> <p>14 submissions, though, we would always find those</p> <p>15 reports in Pathways?</p> <p>16 A I think eventually, yes, they will make</p> <p>17 their way into Pathways.</p> <p>18 Q Okay. So if I understood your testimony</p> <p>19 earlier correctly, it sounds like you work mostly on</p> <p>20 opioid cases now?</p> <p>21 A That was one of the assays that I was</p> <p>22 doing. Starting January 2nd, yes, that will</p> <p>23 typically be the assay that I'm performing.</p> <p>24 Q And you have substantial experience in</p> <p>25 running the open assays prior to, you know, that</p>	<p>Page 71</p> <p>Page 73</p> <p>1 A Um, no, I think that would mostly be when</p> <p>2 we were doing that, I can't think of another</p> <p>3 instance where I feel like I need to actually call</p> <p>4 them and find out what it was.</p> <p>5 Q Okay. And then on the other, just in the</p> <p>6 general instance where you are not specifically</p> <p>7 going and trying to seek out that information in</p> <p>8 Pathways, you would just use it as sort of a</p> <p>9 confirming check on the work you've done?</p> <p>10 A Yes.</p> <p>11 Q Aside from the presence of drug</p> <p>12 paraphernalia or drugs at the scene of a death,</p> <p>13 there is other information that is included in the</p> <p>14 investigative report, right?</p> <p>15 A Yes.</p> <p>16 Q For instance, it would include interviews</p> <p>17 with witnesses?</p> <p>18 A Yes.</p> <p>19 Q Or friends and family?</p> <p>20 A Yes.</p> <p>21 Q It is fair to say that those interviews</p> <p>22 provide crucial details that assist in the death</p> <p>23 investigation?</p> <p>24 A Yes.</p> <p>25 Q And that also assists you in the</p>

<p style="text-align: right;">Page 74</p> <p>1 toxicology that you are performing?</p> <p>2 A Yes.</p> <p>3 Q For instance, if a person has a history of</p> <p>4 drug abuse, that might, that might inform what kind</p> <p>5 of toxicology testing you do?</p> <p>6 A Um, not necessarily. That would be more</p> <p>7 the call of the pathologist and the chief</p> <p>8 toxicologist at the end. If we did not find</p> <p>9 anything, then they may say, well, this person had a</p> <p>10 history of drug abuse, we want further testing and</p> <p>11 then we would figure out what further testing to</p> <p>12 add.</p> <p>13 Q Who in the department conducts the death</p> <p>14 scene investigations?</p> <p>15 A We have an entire department called</p> <p>16 investigations. I'm not sure how many of them there</p> <p>17 are, there are quite a few. They work in shifts.</p> <p>18 They go to as many scenes as possible.</p> <p>19 Q They're all medical, legal, death</p> <p>20 investigators?</p> <p>21 A Yes.</p> <p>22 Q Who runs that department?</p> <p>23 A His name is Joe Stopak.</p> <p>24 Q S-T-O-P-A-C, P-A-K?</p> <p>25 A I think it's S-T-O-P-A-K.</p>	<p style="text-align: right;">Page 76</p> <p>1 investigators have the resources that they need to</p> <p>2 do their jobs properly?</p> <p>3 A I have no idea.</p> <p>4 Q Have you ever had an instance where you</p> <p>5 reviewed a death scene investigation report and it</p> <p>6 seemed incomplete or inaccurate?</p> <p>7 A I'm sure that I have. Um, I guess the</p> <p>8 only example I can give is sometimes they will state</p> <p>9 on there that they did not go to the scene due to</p> <p>10 short staffing for that evening or day or whatever.</p> <p>11 Q Do you have any information about how</p> <p>12 those cases are assigned?</p> <p>13 A I do not.</p> <p>14 Q When did that short staffing issue come to</p> <p>15 your attention?</p> <p>16 A I have no idea. Probably over the past</p> <p>17 couple years, but I don't know an exact year.</p> <p>18 Q Generally speaking though, you would say</p> <p>19 2016 forward?</p> <p>20 A Um, yeah, I really do not know.</p> <p>21 Q Can you remember an instance of that short</p> <p>22 staffing coming up, short staffing for the</p> <p>23 investigators coming up prior to 2016?</p> <p>24 A Um, no, but I also am not certain what</p> <p>25 cases they were going to the scenes of back then</p>
<p style="text-align: right;">Page 75</p> <p>1 Q How long has he been with CCMEO?</p> <p>2 A I do not know, but he has been there since</p> <p>3 I started in 2004.</p> <p>4 Q How many investigators does the office</p> <p>5 employ?</p> <p>6 A I do not know. It is more than ten.</p> <p>7 Q Okay. How routinely do you work with the</p> <p>8 investigators?</p> <p>9 A Not frequently at all.</p> <p>10 Q How many times a year would you estimate</p> <p>11 that you have a meeting or conversation with the</p> <p>12 investigators?</p> <p>13 A Maybe once a year.</p> <p>14 Q Oh, wow, that infrequently.</p> <p>15 A Yeah.</p> <p>16 Q Otherwise you are just reviewing their</p> <p>17 reports from their scene investigations?</p> <p>18 A Yes.</p> <p>19 Q Aside from your work duties, do you</p> <p>20 interact with the investigators on a personal level?</p> <p>21 A No, I don't.</p> <p>22 Q Are they in the same building that you are</p> <p>23 in?</p> <p>24 A They are.</p> <p>25 Q Do you have any opinions about whether the</p>	<p style="text-align: right;">Page 77</p> <p>1 because that has changed over the years. For</p> <p>2 instance, when I first started, we had one</p> <p>3 investigator and he pretty much only went to the</p> <p>4 scene if it was a police involved death.</p> <p>5 So over the years it has evolved</p> <p>6 quite a bit and they go to a lot more scenes now</p> <p>7 than they were previously.</p> <p>8 So I don't know if that's why I</p> <p>9 wasn't seeing it before because they maybe did not</p> <p>10 need to go to these scenes prior, but I don't know</p> <p>11 what year that started either that they started</p> <p>12 going to all the overdose scenes and trying to go to</p> <p>13 every scene is what I believe they try to do.</p> <p>14 Q So there was a change where at some point</p> <p>15 in time they were not going to the scene of every</p> <p>16 overdose death and then now they do go to the scene</p> <p>17 of every dose death?</p> <p>18 A I believe they are trying to go to the</p> <p>19 scene of all of the cases.</p> <p>20 Q Do you recall when that change occurred?</p> <p>21 A I don't. I know when I came back from</p> <p>22 Baltimore, that there was a larger investigation</p> <p>23 department, but it was smaller then than it is now.</p> <p>24 So between 2010 and now, they can continue to grow</p> <p>25 and go to more scenes.</p>

<p style="text-align: right;">Page 78</p> <p>1 Q Do you know why that change was made?</p> <p>2 A I don't.</p> <p>3 Q Okay. So when the toxicologist is perform</p> <p>4 toxicological testing, they have the order form or</p> <p>5 chain of custody form and they have death scene</p> <p>6 investigation available to them. Is there anything</p> <p>7 else that the toxicologists might be reviewing in</p> <p>8 performing their toxicological testing?</p> <p>9 A No, I don't think so.</p> <p>10 Q Do you know if there is any kind of</p> <p>11 standard operating procedure applicable to which</p> <p>12 toxicological testing is order?</p> <p>13 A Do you mean for the pathologist?</p> <p>14 Q Yes.</p> <p>15 A I do not know that.</p> <p>16 Q Do you agree that the results of a</p> <p>17 toxicology screening are dependent on the scope of</p> <p>18 tests? In other words, you won't find things that</p> <p>19 you don't screen for, right?</p> <p>20 A Yes.</p> <p>21 Q When you received the chain of custody</p> <p>22 form from the pathologist, does that form contain</p> <p>23 preliminary determination as to the cause or manner</p> <p>24 of death?</p> <p>25 A Sometimes it does.</p>	<p>1 carfentanil, but we do not have that kit in our</p> <p>2 laboratory, we don't run that test.</p> <p>3 We also have another screening</p> <p>4 procedure called an OMIT and that's performed on</p> <p>5 urine. And that Fentanyl kit for the OMIT is able</p> <p>6 to pick up some carfentanil, but it would have to be</p> <p>7 a certain concentration of carfentanil to be able to</p> <p>8 see that.</p> <p>9 Q Do you typically send your suspected</p> <p>10 carfentanil cases out to a different lab?</p> <p>11 A No, we do not.</p> <p>12 Q You run those in house?</p> <p>13 A Yes.</p> <p>14 Q When was the change made to routinely add</p> <p>15 on the Fentanyl screening into suspected overdose</p> <p>16 cases. Was that completed in the 2014 time frame?</p> <p>17 A I was going to say maybe 2015.</p> <p>18 Q Okay. Because that's when you started to</p> <p>19 see a larger number of Fentanyl cases in Cuyahoga</p> <p>20 County?</p> <p>21 A So neighboring counties, it was either</p> <p>22 Summit or Stark had a bunch of overdoses in one</p> <p>23 weekend and they rushed their testing to try to find</p> <p>24 out what was going on and they came back with</p> <p>25 carfentanil. Right around that same time Franklin</p>
<p style="text-align: right;">Page 79</p> <p>1 Q Are most overdose deaths identified as</p> <p>2 suspicious overdose deaths on that form?</p> <p>3 A I would say most are.</p> <p>4 Q In other words, when I say suspicious</p> <p>5 overdose, that's what I mean is, does that form</p> <p>6 indicate that there is a suspicion that the case</p> <p>7 might be an overdose death?</p> <p>8 A Yes, typically it will say that.</p> <p>9 Q Are those cases where the form indicates</p> <p>10 that there is a suspicion of an overdose, are those</p> <p>11 cases handled any differently than any other case?</p> <p>12 A They are. Since we determine that</p> <p>13 carfentanil was in our area. So if it looks like an</p> <p>14 illicit, so yeah, if it looks like there are</p> <p>15 syringes or something that would indicate some sort</p> <p>16 of IV drug abuse or drug packaging on scene, or the</p> <p>17 person has a history of heroin abuse, those cases we</p> <p>18 typically add the fentanyl confirmation to right off</p> <p>19 the bat because we know that we will miss a</p> <p>20 carfentanil through our screen.</p> <p>21 Other than that, no, they're not</p> <p>22 treated differently.</p> <p>23 Q Is there a separate screening for</p> <p>24 carfentanil versus Fentanyl?</p> <p>25 A Um, there are ELISA kits made for</p>	<p>1 County had seen some carfentanil cases.</p> <p>2 So at that point, we um, we knew that</p> <p>3 it was in the area and so then we started to add on</p> <p>4 the confirmation. We purchased carfentanil standard</p> <p>5 and at that point we might have been sending out</p> <p>6 because officially when carfentanil came about in</p> <p>7 the area, we did not have a validated procedure for</p> <p>8 it.</p> <p>9 So we had, we put it into our</p> <p>10 procedure so we could detect it, but we were not</p> <p>11 able to report it from our laboratory.</p> <p>12 And then after that we built a method</p> <p>13 and validated a method that we were able to report</p> <p>14 carfentanil from.</p> <p>15 Q How long did that take?</p> <p>16 A Um, there's been two different methods.</p> <p>17 Probably between 2015 and the second one was</p> <p>18 finished, I believe, in 2018.</p> <p>19 The second one for the more recent</p> <p>20 one, that did take approximately a year to get up</p> <p>21 and going and fully validated.</p> <p>22 The one prior to that, we already had</p> <p>23 the existing Fentanyl procedure on our LC/MS</p> <p>24 instrument. So we just had to validate a couple</p> <p>25 other analytes so that probably took a couple</p>

<p style="text-align: right;">Page 82</p> <p>1 months, not a full year.</p> <p>2 Q So for some period between 2015 and 2018</p> <p>3 you were sending out Fentanyl analogue cases or</p> <p>4 suspected the Fentanyl analogue cases to an outside</p> <p>5 laboratory?</p> <p>6 A Yes, definitely because in addition to</p> <p>7 carfentanil, there were other Fentanyl analogues</p> <p>8 that we could not report out of our lab.</p> <p>9 Q Were those all suspected Fentanyl analogue</p> <p>10 cases you were sending or was it some subset?</p> <p>11 A Um, I'm not 100 percent certain because I</p> <p>12 wasn't running the Fentanyl assay, but I know we</p> <p>13 were for sure sending out for Fentanyl analogues.</p> <p>14 There was carfentanil at one point we</p> <p>15 were sending out for and then once we got that in</p> <p>16 our assay, we didn't need to send out for that any</p> <p>17 more.</p> <p>18 Cyclopropylfentanyl, I believe was</p> <p>19 one we were sending out for a while,</p> <p>20 Methoxyacetylentanyl. So we had in our Fentanyl</p> <p>21 assay the, we had those analytes in our standard.</p> <p>22 So then when we would see a peak at that retention</p> <p>23 time, we had a heads up that we possibly had one of</p> <p>24 those cases and that's what would flag to send out</p> <p>25 those cases.</p>	<p style="text-align: right;">Page 84</p> <p>1 A So do you mean once all of the testing is</p> <p>2 complete on the case?</p> <p>3 Q Yes. So once you have done your testing,</p> <p>4 you must be reporting your results to someone. I'm</p> <p>5 looking, I'm hoping to understand what that process</p> <p>6 looks like. What paperwork do you generate after</p> <p>7 you complete the testing?</p> <p>8 A Okay. So I will perform the test and I</p> <p>9 will evaluate all the data and then it will be</p> <p>10 checked by another analyst. And what they're</p> <p>11 checking is I have written up what I believe should</p> <p>12 be reported on each case.</p> <p>13 Q I'm sorry to interrupt, but by what you</p> <p>14 mean should be reported, what you mean is what the</p> <p>15 toxicology report should include or how it should</p> <p>16 read?</p> <p>17 A Yes, what should be included on the</p> <p>18 toxicology report for that particular assay.</p> <p>19 Q Okay.</p> <p>20 A So I'm going to, um, either say that</p> <p>21 nothing was detected or the case is going to be</p> <p>22 positive and it was positive for this particular</p> <p>23 analyte, or whatever particular analytes, and the</p> <p>24 quantity of those analytes as long as I met all the</p> <p>25 criteria to be able to report quantitatively. If I</p>
<p style="text-align: right;">Page 83</p> <p>1 So every Fentanyl case did not get</p> <p>2 sent out, but just ones that flagged that we needed</p> <p>3 to send it out based on the testing we were</p> <p>4 performing.</p> <p>5 Q Did you send those out to MMS?</p> <p>6 A Yes.</p> <p>7 Q Is there any other way in which a</p> <p>8 suspected overdose cases are handled differently in</p> <p>9 the toxicology department than what you have already</p> <p>10 described to me?</p> <p>11 A Um, just again that those, we will, if</p> <p>12 there's a lack of sample volume on them, we will</p> <p>13 focus on prioritizing typically the Fentanyls are</p> <p>14 the most important at this point. So if there is</p> <p>15 not a lot of sample volume, we are going to ruin the</p> <p>16 Fentanyl confirmation.</p> <p>17 And then the opiate confirmation and</p> <p>18 then our chief toxicologist has a full lists how he</p> <p>19 likes us to go about making that decision.</p> <p>20 Other cases, um, we would end up</p> <p>21 doing the same, but if they don't involve a Fentanyl</p> <p>22 or an opiate, it makes the process a lot easier to</p> <p>23 determine how to proceed with testing.</p> <p>24 Q Once you are done with your toxicology</p> <p>25 testing, what type of paperwork do you fill out?</p>	<p style="text-align: right;">Page 85</p> <p>1 didn't, then I could say that that analyte is</p> <p>2 present, but just not how much of it.</p> <p>3 So that information will be on my,</p> <p>4 they're called chromatograms, so that's the data</p> <p>5 that I generate. Reviewer will look at what I have</p> <p>6 written and determine whether or not they agree.</p> <p>7 Um, if they don't, then we, sometimes</p> <p>8 it might just be a typo that I wrote the wrong</p> <p>9 analyte and they said no, it is the other one. If</p> <p>10 there is a discussion that needs to be had, we will</p> <p>11 discuss it together or we could ask the supervisor</p> <p>12 or the chief toxicologist.</p> <p>13 Then at that point, when the reviewer</p> <p>14 gives the data back, I will enter those result that</p> <p>15 I have written on each chromatogram into our</p> <p>16 Pathways and that will close out the open pending,</p> <p>17 let's say opiate assay in this instance. So then</p> <p>18 that will no longer show up on my work list that</p> <p>19 that case needs to be run.</p> <p>20 And then all of the other analysts</p> <p>21 will do that with all the other testing that needs</p> <p>22 to be completed and then when it is all completed,</p> <p>23 it will show up on a particular list in Pathways</p> <p>24 saying that there's no testing open on these cases.</p> <p>25 And at that point the chief toxicologist will take</p>

<p style="text-align: right;">Page 86</p> <p>1 the case and review all of the data that's in the 2 case file and then generate the final report. 3 Q And the final toxicology report 4 essentially collates all the results of those assays 5 that the toxicologists are reporting, right? 6 A Yes. 7 Q Does it include any other information? 8 A It includes demographic information, it 9 will include the decedent's name, it will include 10 who the pathologist was on the case. I believe it 11 includes the dates that we received the body and the 12 date that the report was completed. 13 The back of the report will tell you 14 every drug that's in our scope of testing. Um, if 15 it is from another county, that will be on the final 16 report in the public comment. So there's a section 17 at the top that says comment. 18 Also if there's any miscellaneous 19 results or just explanations that need to be made, 20 the chief toxicologist will write them in that 21 comment on the report. 22 Q What would an example of comments that are 23 necessary? 24 A Um, for instance, if we have a severely 25 decomposed body and we performed testing on the</p>	<p style="text-align: right;">Page 88</p> <p>1 Q Do the toxicology reports include testing 2 that was done, but came back negative? 3 A Yes. 4 Q Do the toxicology reports include where 5 the sample was drawn from that was testing? 6 A Um, typically yes. The way that we label 7 the specimen as they are entered into the computer 8 will frequently do that. 9 So a femoral blood will be 10 specifically called femoral blood as opposed to just 11 blood. Typically the heart blood is what we call B1 12 and that will print-out on the report as heart 13 blood. 14 There are drop down options when you 15 have accession to change the location of where the 16 blood was drawn from. 17 If it is a hospital sample that we 18 have received, so something from admission at the 19 hospital, we note that at accessioning and that will 20 print out on the report as well as what color top 21 that was collected at the hospital. 22 Q What do you mean by what color top? 23 A They collect blood specimens into 24 different types of tubes and the tops indicate what 25 kind of preservative was present in that tube. Some</p>
<p style="text-align: right;">Page 87</p> <p>1 liver, some of the assays may not be specifically 2 validated for a liver. So then he would, the result 3 would go on the report as see comment. He would 4 write a comment up there stating that these were 5 investigational findings only, or something to that 6 extent. 7 Also if we have an analyte that we 8 believe is probably present, but it doesn't meet our 9 standards of what it needs to meet to be able to be 10 reported, the result will go in see comment and he 11 will add a comment saying something along the lines 12 of, the hydrocodone in the femoral blood had a junk 13 peak that collated with it and was unable to be 14 reported. 15 Typically he will do that when you 16 have hydrocodone in another matrix and then he will 17 say see here. There will be hydrocodone in the 18 urine. 19 Q So it is essentially meant to explain any 20 limitations or unusual results that you see in the 21 toxicological testing? 22 A Yes. 23 Q Toxicologist do not determine cause or 24 manner of death, correct? 25 A No, we do not.</p>	<p style="text-align: right;">Page 89</p> <p>1 of them have preservatives, some of them don't. 2 Some of them will separate out the serum from the 3 blood. And, obviously, the hospital is collecting 4 these for whatever tests they feel are necessary. 5 So we just get whatever they still have. 6 Q Got it. That's only for the hospital 7 cases? 8 A Yes. We also will specify whether or not 9 a vitreous draw was done during autopsy or if it was 10 a nonpost vitreous draw. 11 Q Vitreous is eyeball fluid, correct? 12 A Yes. There's also a, well, Life Bank and 13 Pepper site, which will do organ donations. 14 Sometimes they will draw blood specimens for us. So 15 we will make the distinction if they have done the 16 blood draw and the vitreous also. 17 Q Okay. So then once the toxicology report 18 is, I'm sorry, going back just a second. 19 In addition to where the sample was 20 drawn from, does the toxicology report also include 21 information on when the sample was drawn? 22 A In accessioning, there is the date that 23 the samples were drawn. I do not remember if that 24 shows up on the report or not. 25 Q Does Pathways include the time when the</p>

<p>1 sample was drawn?</p> <p>2 A I believe just the date.</p> <p>3 Q Okay. Is the time the sample was drawn</p> <p>4 included in the records at the CCMEO anywhere?</p> <p>5 A I'm not sure. On our chain of custody I</p> <p>6 know we indicate when it is accessioned into the</p> <p>7 computer. That will be a date and time. We also</p> <p>8 put a date and time for when we actually received</p> <p>9 the sample. So there's a line that asks what time</p> <p>10 did you receive the sample from the dumbwaiter and</p> <p>11 the person who did it will initial and date and put</p> <p>12 the time.</p> <p>13 I don't believe that the pathologists</p> <p>14 when they draw that they put a time on our chain of</p> <p>15 custody.</p> <p>16 So I don't if that's in their records</p> <p>17 or not, but I don't believe we get that information.</p> <p>18 Q And that's not information that you</p> <p>19 routinely review either?</p> <p>20 A No.</p> <p>21 Q It is not there?</p> <p>22 A Right.</p> <p>23 Q So then once the toxicology report is</p> <p>24 generated, the pathologist uses that information as</p> <p>25 one data point for determining cause and manner of</p>	<p>Page 90</p> <p>1 A I do know if they review those.</p> <p>2 Q But ultimately determining the cause and</p> <p>3 manner of death is up to pathologist and medical</p> <p>4 examiner, right?</p> <p>5 A Yes.</p> <p>6 Q And that determination is based on the</p> <p>7 totality of the circumstances of each case, not just</p> <p>8 the toxicology report?</p> <p>9 A Yes.</p> <p>10 Q And that's because every case is different</p> <p>11 than individual, right?</p> <p>12 A Yes.</p> <p>13 Q And in each case you have to examine the</p> <p>14 totality of the circumstances and all of the facts</p> <p>15 and information available in order to determine the</p> <p>16 cause and manner of death, correct?</p> <p>17 A Yes.</p> <p>18 Q And it is not possible to determine the</p> <p>19 cause and manner of death based solely on the result</p> <p>20 of toxicology testing?</p> <p>21 A I don't, I don't, you know determine what</p> <p>22 the cause and manner of death are. I can't say that</p> <p>23 for sure. I don't know if they would determine that</p> <p>24 based on just the toxicology report.</p> <p>25 Q Are you aware in your time at CCMEO of any</p>
<p>1 death, right?</p> <p>2 A Yes.</p> <p>3 Q But that's just one out of many data</p> <p>4 points that the pathologist uses to make that</p> <p>5 determination?</p> <p>6 A Yes.</p> <p>7 Q Are there any other data points that you</p> <p>8 are aware of that the pathologist might rely on to</p> <p>9 determine cause and manner of death?</p> <p>10 A Um, they rely on the autopsies that they</p> <p>11 perform and any pathology related findings that they</p> <p>12 may find during that autopsy.</p> <p>13 They rely on the medical records of</p> <p>14 the individuals. They rely on the investigation</p> <p>15 reports. I would assume any police reports that</p> <p>16 were generated.</p> <p>17 Q Do the files also include information that</p> <p>18 is reported when the death is reported to the CCMEO</p> <p>19 office, do you understand what I mean by that?</p> <p>20 A No.</p> <p>21 Q So are you familiar at all with how a case</p> <p>22 is received by CCMEO?</p> <p>23 A Um, no, not really.</p> <p>24 Q Okay. Do you know if the pathologist</p> <p>25 reviews OAARS reports?</p>	<p>Page 91</p> <p>1 toxicologists ever certified the cause and manner of</p> <p>2 death?</p> <p>3 A No, nobody has.</p> <p>4 Q Are you aware during your time at CCMEO</p> <p>5 any toxicology report including cause and manner of</p> <p>6 death?</p> <p>7 A No, our toxicology reports do not include</p> <p>8 that.</p> <p>9 Q You have never signed a death certificate?</p> <p>10 A No.</p> <p>11 Q If you could go back to be Exhibit 2 that</p> <p>12 we were just looking at. We were on the slide that</p> <p>13 says blood equals current and urine equals</p> <p>14 historical. I want to look at the next slight which</p> <p>15 is labeled interpretation.</p> <p>16 A Okay.</p> <p>17 Q So this is similar to what we were just</p> <p>18 discussing about how the toxicology report is</p> <p>19 interpreted by the pathologist as one data point in</p> <p>20 reaching a cause and manner of death?</p> <p>21 A Yes, and I believe also the chief</p> <p>22 toxicologist would interpret the information we have</p> <p>23 gathered also.</p> <p>24 Q So the chief toxicologist might look at</p> <p>25 things like redistribution, for instance, we</p>

<p>1 discussed that earlier?</p> <p>2 A Uh-huh.</p> <p>3 Q And might note if any, if there are any</p> <p>4 abnormalities or concerns about the result as a</p> <p>5 result of redistribution and not the comment section</p> <p>6 of the report?</p> <p>7 A I have not seen that in the comment</p> <p>8 section. I think this would be more conversation</p> <p>9 between the pathologist and the chief toxicologist.</p> <p>10 Q Are you a part of those conversations?</p> <p>11 A No.</p> <p>12 Q Do you know why tolerance might be an</p> <p>13 issue that the chief toxicologist would consider in</p> <p>14 interpreting results?</p> <p>15 A Yeah, tolerance, specifically with opioid</p> <p>16 is very common. An individual over time as they've</p> <p>17 continued to take an opioid will require more and</p> <p>18 more of the opioid for it to give them the same</p> <p>19 results.</p> <p>20 Q There's no postmortem test for tolerance,</p> <p>21 is there?</p> <p>22 A No.</p> <p>23 Q And so in taking tolerance into</p> <p>24 consideration, that would be based on the case</p> <p>25 history?</p>	Page 94	<p>1 case unique from another case even if the toxicology</p> <p>2 results are the same?</p> <p>3 A Yes.</p> <p>4 Q And that's why you need a pathologist to</p> <p>5 certify the cause and manner of death, right?</p> <p>6 A Yes.</p> <p>7 Q You have to take factors like tolerance</p> <p>8 into consideration and not just the results of the</p> <p>9 toxicology report?</p> <p>10 A Yes.</p> <p>11 Q What does steady state mean, do you know?</p> <p>12 And for the record I'm referring to the slide</p> <p>13 labeled interpretation on Exhibit 2?</p> <p>14 A Um, I am not super familiar with steady</p> <p>15 state. So I feel like Dr. Apollonio would better be</p> <p>16 able to explain that better.</p> <p>17 Q If you could turn to the next slide. This</p> <p>18 slide is also labeled interpretation and this is</p> <p>19 some of what we just discussed is similar</p> <p>20 information. So it reads, you must consider all the</p> <p>21 facts. You must consider all the facts surrounding</p> <p>22 interpreting toxicology results, correct?</p> <p>23 A Yes.</p> <p>24 Q It says, involve the entire team in the</p> <p>25 decision. Who would be the entire team?</p>	Page 96
<p>1 A Yes.</p> <p>2 Q And the investigation?</p> <p>3 A Yes.</p> <p>4 Q So tolerance might be one factor that the</p> <p>5 chief toxicologist would consider in determining</p> <p>6 whether or not the dose of opioids that an overdose</p> <p>7 victim used was fatal?</p> <p>8 A Um, yes. But I feel like these are just</p> <p>9 conversations if the pathologist is questioning it.</p> <p>10 So that wouldn't show up on the report at all that</p> <p>11 there was any inclination that this person may have</p> <p>12 had a tolerance to something. The pathologist may</p> <p>13 already know that and, you know, that will play into</p> <p>14 whatever their determination is or if they are</p> <p>15 unsure based on a value that we have on the report,</p> <p>16 they would then call Dr. Apollonio and they could</p> <p>17 discuss tolerance with him and see what play, you</p> <p>18 know, what part he thinks that may have played in</p> <p>19 the death.</p> <p>20 Q So tolerance is one of those things, one</p> <p>21 of those data points that we discussed earlier that</p> <p>22 can, that necessitates, something beyond toxicology</p> <p>23 review to reach a cause and manner of death, right?</p> <p>24 A Yes.</p> <p>25 Q It is something that can make a particular</p>	Page 95	<p>1 I do not know who the entire team is.</p> <p>2 Q Next bullet reads, conclusions based</p> <p>3 solely on blood analysis is uncertain and foolish.</p> <p>4 Do you agree?</p> <p>5 A I, I feel, um, like the first bullet point</p> <p>6 is much better in saying that you need to have all</p> <p>7 of the information and that you wouldn't make a</p> <p>8 conclusion based just on the blood analysis.</p> <p>9 Q You wouldn't make a conclusion based</p> <p>10 solely on the toxicology report either, right?</p> <p>11 A No.</p> <p>12 Q Because in order to determine the cause</p> <p>13 and manner of death, you have to consider all of the</p> <p>14 facts?</p> <p>15 A Yes.</p> <p>16 Q The last bullet reads, the interpretation</p> <p>17 of the results is the most difficult task of the</p> <p>18 professional team.</p> <p>19 Do you agree with that?</p> <p>20 A I do not know because I don't interpret</p> <p>21 the results.</p> <p>22 Q Fair enough. Turn to the slide labeled</p> <p>23 certainty versus uncertainty. It looks like there</p> <p>24 are a couple of slides with that label. I'm looking</p> <p>25 at the second one. The first bullet point reads</p>	Page 97

<p>1 forensic?</p> <p>2 A Okay.</p> <p>3 Q It says, reliable, sensitive and accurate</p> <p>4 assays do not contribute to interpretation.</p> <p>5 Do you agree with that?</p> <p>6 A Um --</p> <p>7 MR. GALLUCCI: Object to form and</p> <p>8 foundation, go ahead.</p> <p>9 A I don't really understand what that's</p> <p>10 saying. I guess as I'm reading it, I don't agree</p> <p>11 with that. I feel like, um, if we have reliable</p> <p>12 sensitive and accurate assays, then the results from</p> <p>13 those would absolutely contribute to interpretation.</p> <p>14 Q (Ms. Ranjan) The third bullet reads,</p> <p>15 reported postmortem reference ranges vary.</p> <p>16 Do you understand what that means?</p> <p>17 A Um, I believe that he, he's referencing,</p> <p>18 so there are, if you were to look up a particular</p> <p>19 drug and you were trying to find what the lethal</p> <p>20 range is or the therapeutic range. That you are</p> <p>21 getting that information from sources where it was</p> <p>22 reported that, so for instance, if you found a</p> <p>23 journal article about an overdose on a particular</p> <p>24 analyte. You are getting the results from that</p> <p>25 particular case or whatever that study found.</p>	Page 98	<p>1 use in the toxicology department for what might be</p> <p>2 considered a lethal dose of a given substance?</p> <p>3 A I don't, that would be the chief</p> <p>4 toxicologist.</p> <p>5 Q That would be a part of his process in</p> <p>6 interpreting the result and generating the</p> <p>7 toxicology report?</p> <p>8 A Yes.</p> <p>9 Q Do you ever have occasion to look at</p> <p>10 reference ranges in connection with your job at</p> <p>11 CCMEO?</p> <p>12 A Um, I have. I was just reviewing an AMEIN</p> <p>13 set that somebody else had generated the data for</p> <p>14 and we have the option if the concentration comes</p> <p>15 out in a result that's higher than our highest</p> <p>16 calibrator. We can, when it is appropriate, report</p> <p>17 that as greater than whatever that amount is at the</p> <p>18 highest calibrator, as opposed to running it at a</p> <p>19 dilution to get the concentration within our working</p> <p>20 range.</p> <p>21 So I believe it was pseudoephedrine</p> <p>22 that the analyst had written greater than a thousand</p> <p>23 nanograms per mil.</p> <p>24 So I looked up what the therapeutic</p> <p>25 range was for pseudoephedrine and that was falling</p>	Page 100
<p>1 So the numbers for a lethal, a lethal</p> <p>2 amount of drug in your system can vary widely</p> <p>3 because, well, we are already talking about with</p> <p>4 tolerance, but also, you know, the case that</p> <p>5 somebody might have reported on could have been</p> <p>6 someone who took a whole bottle of prescription</p> <p>7 medication or another one could be reported on</p> <p>8 someone who took two bottles of it and both of them</p> <p>9 were lethal, but they're both wildly different</p> <p>10 amounts of the drugs present.</p> <p>11 Um, and then, yeah, I believe all the</p> <p>12 ranges, because these are coming from human cases</p> <p>13 and people can metabolize drugs differently. There</p> <p>14 are just a lot of factors that go into these actual</p> <p>15 drug results. So you will find ranges.</p> <p>16 Q It is similar to what we were discussing</p> <p>17 earlier, right, the dose is lethal for one person,</p> <p>18 might not be a dose that is lethal for another</p> <p>19 person, right?</p> <p>20 A Yes, that's true.</p> <p>21 Q And that's reflected also in the last</p> <p>22 bullet on the slide, which says death can occur if</p> <p>23 you die even at low concentrations; is that right?</p> <p>24 A Yes.</p> <p>25 Q Are there particular set ranges that you</p>	Page 99	<p>1 in that range. So I allowed that in my review to</p> <p>2 make it through greater than 1,000. But</p> <p>3 Dr. Apollonio, when he gets to the final report he</p> <p>4 could say that he wants the actual concentration and</p> <p>5 greater than a thousand is not acceptable to him,</p> <p>6 and then we would repeat it at a dilution.</p> <p>7 Q I see. So you might be referring to</p> <p>8 reference ranges in terms of what's a therapeutic</p> <p>9 range for a particular substance just to determine</p> <p>10 if the results that you are reporting into the</p> <p>11 Pathway system will be sufficient for the chief</p> <p>12 toxicologist and the pathologist on a case?</p> <p>13 A Yes.</p> <p>14 Q Do you know if the CCMEO has any set</p> <p>15 reference ranges that they use in the ordinary</p> <p>16 course?</p> <p>17 A Um, I do not know that. There's a number</p> <p>18 of references to look at, but there's no standard</p> <p>19 operating procedure that tells you specifically</p> <p>20 which ones to look at.</p> <p>21 And, again, Dr. Apollonio typically</p> <p>22 is the one that would be looking at the ranges.</p> <p>23 Q Just to clarify, you know for sure that</p> <p>24 there is no standard operating procedure on that</p> <p>25 issue?</p>	Page 101

<p style="text-align: right;">Page 102</p> <p>1 A I've never seen that. 2 Q Okay. Is that something that you think 3 you would be aware of if it existed? 4 A Um -- 5 MR. GALLUCCI: Object to form. 6 A Since I don't typically look at ranges, I 7 suppose that could exist and I just don't know that 8 it exist, but to my knowledge we don't have that in 9 an SOP. 10 Q (Ms. Ranjan) On the occasions that you've 11 had where you wanted to look at a reference range 12 like we just discussed, where do you go to find that 13 information? 14 A Um, the medical examiner's office out of 15 North Carolina, they put together a spreadsheet that 16 has a lot of drugs with their therapeutic ranges, 17 their toxic ranges and lethal ranges. I have that 18 presented out and that's what I consulted when I was 19 looking at the pseudoephedrine. 20 We also have a reference book that we 21 will use. The author is Basalt and that has a lot 22 of information on many, many, different drugs. 23 Q Have you ever talked to the other forensic 24 scientists or the chief toxicologists about 25 reference ranges?</p>	<p style="text-align: right;">Page 104</p> <p>1 A Yeah, I think I was a fact witness in 2 those. 3 Q So you were there to testify about the 4 testing that you did through your toxicology lab, 5 correct? 6 A Yes. 7 Q You didn't issue any kind written of 8 report with toxicological opinions in it for that 9 case? 10 A No, I did not. 11 Q Have you ever been asked to serve as an 12 expert witness in a case? 13 A No. 14 Q Okay. Have you ever been asked to prepare 15 an expert report for any legal case? 16 A No. 17 Q Do you receive performance reviews? 18 A We have in the past. I don't think the 19 past two years they have done them though. 20 Q When was the last one you received? 21 A I would guess 2016, 2015 or 2016. 22 Q What are the criteria that were applied at 23 that time for your job performance? 24 A I don't understand the question. 25 Q When you are being evaluated back in 2016,</p>
<p style="text-align: right;">Page 103</p> <p>1 A I'm sure that I have. 2 Q In your discussions with them, has anyone 3 said, well, why don't you just go check standard 4 operating procedure for that? 5 A No, no one has ever said that. 6 Q And those conversations, would others at 7 your office typically refer to the same sources that 8 you just cited? 9 A Yes, they would. 10 Q I think you can set that one aside, I'm 11 sorry. Turn to the last page. I just have to ask 12 you because I'm very curious. I see polar bears in 13 a lot of presentations do you have any idea why? 14 A I have no idea why. 15 Q Somebody an Ohio Northern fan or 16 something? 17 A I don't know. I've never put a polar bear 18 in my presentation. 19 Q I just wanted clarify one point from your 20 testimony earlier when I asked you about expert 21 testimony. You talked about some testimony you had 22 given in connection with some CCMEO cases. 23 A Uh-huh. 24 Q I just wanted to clarify in those cases, 25 you served as a fact witness; is that correct?</p>	<p style="text-align: right;">Page 105</p> <p>1 do you understand the standards against which you 2 were being evaluated? 3 A Um, we were shown the evaluations and at 4 the time I understood what they were showing me. 5 Q Do you recall what was included in that 6 evaluation? 7 A I don't remember the specifics. 8 Q Have you ever received any negative 9 feedback from one of your supervisors? 10 A Not to me, not that I know of. 11 Q You have never been formally disciplined? 12 A No. 13 Q Do you have to do performance reviews for 14 anyone else in the office? 15 A Me personally? 16 Q Yes. 17 A No, I don't. 18 Q Have you ever had any concerns about the 19 competency of any of your colleagues? 20 A No, I have not. 21 Q We have talked about cause and manner of 22 death earlier. So just to clarify for the record, 23 cause of death is the injury or disease that 24 resulted in the individual's death; is that right? 25 A Yes.</p>

<p style="text-align: right;">Page 106</p> <p>1 Q And manner of death describes how the 2 cause of death occurred, right?</p> <p>3 A So, for instance, there is categories like 4 it could be accidental or a suicide, it is like a 5 more generally description of what happened.</p> <p>6 Q And that description describes what caused 7 the individual's death?</p> <p>8 A The manner, that describes the manner in 9 which the person died.</p> <p>10 Q There are five manners of death I think 11 you said, correct?</p> <p>12 A I'm not sure how many categories they use.</p> <p>13 Q But, um, they are set, there is a set 14 number of potential manners of death?</p> <p>15 A I believe that there is.</p> <p>16 Q One of them is accident?</p> <p>17 A Yes.</p> <p>18 Q And one of them is homicide?</p> <p>19 A Yes.</p> <p>20 Q And one of them is suicide?</p> <p>21 A Yes.</p> <p>22 Q An one of them is natural?</p> <p>23 A Yes.</p> <p>24 Q And undetermined is also a potential 25 manner of death?</p>	<p style="text-align: right;">Page 108</p> <p>1 so long. Although in the laboratory, we do have 2 what we call short notes, which um, is just pulling 3 the part of the SOP that tells you how to perform 4 the laboratory extraction.</p> <p>5 So I do have that out in front of me 6 every time that I do the extraction. But for other 7 assays if I'm reviewing them, I will pull up the SOP 8 just so that I'm aware of the level of detection for 9 certain analytes. They all vary. So every assay 10 you are looking at has different levels that you are 11 able to quantitate down to. So I will look at those 12 to make sure I'm within the range that I need to be 13 for that assay.</p> <p>14 Q So you might find yourself referring to 15 the standard operating procedures for the assays on 16 a daily or weekly basis?</p> <p>17 A I would say daily basis.</p> <p>18 Q What about the one for accessioning, do 19 you refer to those?</p> <p>20 A I don't.</p> <p>21 Q Because you are not involved in that 22 process?</p> <p>23 A Yeah, I don't actually do accessioning. 24 If I do fill in and I needed information that 25 someone couldn't give me, then yes, I would go to</p>
<p style="text-align: right;">Page 107</p> <p>1 A Yes.</p> <p>2 Q Are you aware of any others?</p> <p>3 A Um, I feel like I've seen things for house 4 fires, but I don't know what exact manner that was 5 or if they even consider that a manner, but um, 6 yeah, I don't know. I thought there was more than 7 five, but maybe there's not.</p> <p>8 Q We talked about some specific policies or 9 procedures or standard operating procedures. Are 10 there any others that you use in the normal 11 course of performing your job functions?</p> <p>12 A We have standard operating procedures for 13 all of the assays that we perform.</p> <p>14 So there's three large books and 15 they're also located on the computer too. So you 16 can read them and figure out how to perform all of 17 the assays we do, how you should report all of the 18 assays. We also have standard operating procedures 19 for accessioning and we have standard operating 20 procedures for quality assurance issues.</p> <p>21 Q How frequently do you find yourself 22 referring to those standard operating procedures?</p> <p>23 A I refer to them frequently. Um, with the 24 opiate assay that I'm running, I don't typically 25 need to refer to that because I've been doing it for</p>	<p style="text-align: right;">Page 109</p> <p>1 the SOP, but I rarely have to fill in for 2 accessioning.</p> <p>3 Q What about a quality assurance standard 4 operating procedures, do you ever refer to those?</p> <p>5 A I don't. I myself wouldn't go over and 6 pull the quality assurance SOP, but actually I think 7 we have two of them. One for the laboratory and one 8 for the Cuyahoga County Regional Forensic Science 9 Laboratory as whole. So one that is over all the 10 laboratories. But if I had a quality assurance 11 issue, I would talk to our quality assurance officer 12 and he would probably reference those SOPs.</p> <p>13 Q Who is that?</p> <p>14 A That's Szabolc Sofalui.</p> <p>15 Q How frequently has that happened?</p> <p>16 A Um, I would say maybe on a monthly, maybe 17 once a month I will go to him and ask him, just 18 something about reporting and what he feels the best 19 way to proceed is.</p> <p>20 Q When is the last conversation of that 21 nature you remember having?</p> <p>22 A The last conversation I remember having 23 about quality assurance issues was when I was 24 reviewing the cannabinoid blood SOP because yearly 25 we have to review all of the SOPs to make sure that</p>

<p style="text-align: right;">Page 110</p> <p>1 they're correct and that is -- if we made changes, 2 that the changes have been reflected. 3 And there was a portion that had been 4 added that didn't make sense to me. I wasn't sure 5 why it had been added. It seemed repetitive with 6 what we already had in there. 7 So I asked him about that, if he had 8 added it. He had not, but then we just discussed 9 that having that portion in there would be 10 problematic because the wording was a little bit 11 different between that added portion and what was 12 already currently in the SOP. 13 And it would have just caused 14 confusion to somebody running the assay on how to 15 determine if a result was acceptable or not. 16 Q Have you ever had a conversation with him 17 relating to quality assurance issue related to 18 opioids in any way? 19 A Um, I'm sure that I have. I know, he has 20 reviewed an opiate set before and he has determined 21 that we either need to repeat the sample or run a 22 different matrix because he was unhappy with the 23 chromatographic quality, particularly analyte. So 24 it has been more along those lines. Like a specific 25 case he will see the chromatography and say okay, in</p>	<p style="text-align: right;">Page 112</p> <p>1 apply to overdose drug deaths? 2 A Not in toxicology. I don't know if other 3 departments have SOPs. 4 Q Does your lab ever serve as a reference 5 lab? We talked about you sending out samples to 6 other reference labs. Does CCMEO toxicology lab 7 ever serve as a reference lab for others? 8 A I don't think we are considered a 9 reference lab, but as I did say before, there have 10 been occasions where another local county has sent 11 us a few specimen to see if we can find a particular 12 drug that they're interested in. 13 Q In those instances, what was the 14 particular drug? 15 A Um, I remember specifically carfentanil. 16 I don't know, there may have been other Fentanyl 17 analogues that they were interested in. 18 Q When was that? 19 A Um, I think maybe last year. I don't 20 actually even know if we ended up accepting all of 21 them. We may have turned them away. I know that 22 there was a request and then I think there was talk 23 that this is going to be way too much work for us 24 because they were going to have a lot of cases. So 25 I don't know if we did do the testing on any of</p>
<p style="text-align: right;">Page 111</p> <p>1 my opinion we need to reconfirm that somewhere else 2 or in that same matrix. 3 Q Does he review every case? 4 A No, he does not. 5 Q How does he determine which cases to 6 review? 7 A Um, in those particular instances he just 8 happen to be the reviewer that I handed that set of 9 data to. 10 Q Do you remember which analyte it was in 11 that instance? 12 A It has happened on a number of them. I 13 know that he's, um, crossed out a codeine, and in 14 that instance he just did not feel it needed to be 15 reported. 16 It has happened with 17 6-acetylmorphine, we ran another matrix and, yeah, 18 it is not uncommon. He just wants the absolute best 19 chromatography reported, as does everybody. So if 20 anybody ever questions, chromatography will add 21 another matrix to run to confirm that that analyte 22 is there. 23 Q Aside from the standard operating 24 procedures that apply to the opioid assays, are 25 there any other standard operating procedures that</p>	<p style="text-align: right;">Page 113</p> <p>1 them, but I know that they had called us to see if 2 we would. 3 Q Do you remember which county it was? 4 A I do not. It was either Stark or Summit, 5 I'm not sure which one. 6 Q Do you agree that prescription opioids 7 should be available to residents of Cuyahoga County 8 who have a general medical need and have a 9 prescription from a licensed physician? 10 MR. GALLUCCI: Object to form, foundation, 11 beyond the scope of the deposition. 12 A Yes. 13 Q (Ms. Ranjan) During your studies, or at 14 any other time in your career, have you ever had the 15 occasion to examine the abuse potential for opioids? 16 Strike that, let me rephrase that question. 17 Have you ever studied or become aware 18 of the potential for abuse to be addictive? 19 A Yes, I'm aware of that. 20 Q How did you become aware of that? 21 A My mom told me that prior to ever working 22 in forensics. I don't remember if we discussed it 23 at Ohio University. I absolutely have heard it at 24 work, you know, workshops I've attended or 25 presentations that I've attended or just discussing</p>

<p>1 with co-workers.</p> <p>2 Q Something that you were generally aware</p> <p>3 of?</p> <p>4 A Yes.</p> <p>5 Q Throughout your career?</p> <p>6 A Yes.</p> <p>7 Q And during your time in college?</p> <p>8 A Yes.</p> <p>9 Q When did you first learn that Cuyahoga</p> <p>10 County had a problem with opioids?</p> <p>11 A Um, I don't think that there's a specific</p> <p>12 time that I learned that, um, once I came back from</p> <p>13 Baltimore and I was running the opiate assay, I just</p> <p>14 saw that specifically the heroin, the number of</p> <p>15 cases involving heroin was increasing and each year</p> <p>16 it kept increasing.</p> <p>17 Q In your toxicology report have you ever</p> <p>18 made a determination that a decedent was addicted to</p> <p>19 a substance?</p> <p>20 A No, our toxicology report wouldn't</p> <p>21 indicate that.</p> <p>22 Q There's no postmortem test to determine</p> <p>23 whether someone was addicted, is there?</p> <p>24 A No.</p> <p>25 Q Have you ever seen opioid addiction</p>	<p>Page 114</p> <p>1 A Accessioning.</p> <p>2 Q Accessioning?</p> <p>3 A That's how I pronounce it.</p> <p>4 Q I don't know. So for those three sets of</p> <p>5 standard operating procedures, has it all been the</p> <p>6 case that those have been the set of operating</p> <p>7 procedures?</p> <p>8 A Yes.</p> <p>9 Q Since you have been working at CCMEO?</p> <p>10 A Yes.</p> <p>11 Q It is the content of those standard</p> <p>12 operating procedures has changed over time?</p> <p>13 A Yes.</p> <p>14 Q And specifically the content of the assay,</p> <p>15 SOP, the one that has changed most frequently?</p> <p>16 A I believe the accessioning one has changed</p> <p>17 also. Because I think in the accessioning one is</p> <p>18 where they discussed how long we retain samples for.</p> <p>19 And at some point, it might have been when Dr. Wyman</p> <p>20 was here, I don't remember the timing, but we used</p> <p>21 to keep the samples longer. So, yes, changes like</p> <p>22 that would be reflected in the SOP.</p> <p>23 Q Do you get historical versions of the SOPs</p> <p>24 somewhere?</p> <p>25 A Yes, we do.</p>
<p>1 reported as the cause of death by a death</p> <p>2 certificate issued by CCMEO?</p> <p>3 A No.</p> <p>4 Q Someone can overdose on opioid whether</p> <p>5 they are addicted to it or not, correct?</p> <p>6 A Yes.</p> <p>7 Q Standard operating procedures that we</p> <p>8 talked about earlier, have those changed over time</p> <p>9 at all?</p> <p>10 A Yes, they have.</p> <p>11 Q How so?</p> <p>12 A Um, like I said, each year we review them</p> <p>13 and, um, some procedures completely change. We add</p> <p>14 additional calibrator levels for the instance of</p> <p>15 Fentanyl, like I was saying. The most recent assay</p> <p>16 that we run, we added a lot of Fentanyl analogue</p> <p>17 analytes into the assay. So they could change like</p> <p>18 that, that you have added analytes, but yes, they</p> <p>19 change frequently.</p> <p>20 Q But the structure for your standard</p> <p>21 operating procedures, has that changed over time?</p> <p>22 In other words, you described three sort of sets of</p> <p>23 standard operating procedures assays, quality</p> <p>24 assurance and accessioning. Am I pronouncing that</p> <p>25 term correctly by the way?</p>	<p>Page 115</p> <p>1 MS. RANJAN: Do you know if those have</p> <p>2 been produced, counsel?</p> <p>3 MR. GALLUCCI: I don't know that.</p> <p>4 MS. RANJAN: Okay.</p> <p>5 (Deposition Exhibit Number 3</p> <p>6 marked for identification.)</p> <p>7 Q (Ms. Ranjan) I'm going to show you what's</p> <p>8 been marked Exhibit 3 for the record. The first</p> <p>9 page is an email from you to an email address E-X,</p> <p>10 but the email is addressed to Dr. Gilson. So I'm</p> <p>11 assuming the email was sent to Dr. Gilson?</p> <p>12 A Yes.</p> <p>13 Q The date September 27th, 2012. Subject is</p> <p>14 heroin presentation?</p> <p>15 A Uh-huh.</p> <p>16 Q And the email reads, hi, Dr. Gilson, here</p> <p>17 some background sites I came up for you. Hopefully</p> <p>18 you will be able to use some of this. Let me know</p> <p>19 if there is anything more you need me to do or help</p> <p>20 with, Claire.</p> <p>21 It appears you attached a</p> <p>22 presentation or some slides that you prepared for</p> <p>23 Dr. Gilson?</p> <p>24 A Uh-huh.</p> <p>25 Q I'm sorry, is that a yes?</p>

<p style="text-align: right;">Page 118</p> <p>1 A Sorry, yes.</p> <p>2 Q You have been doing a great job by the way</p> <p>3 in terms of not talking over each other and</p> <p>4 answering orally, great job.</p> <p>5 A Thank you.</p> <p>6 Q So these appear to be a set of slides that</p> <p>7 relate to some background information on heroin; is</p> <p>8 that right?</p> <p>9 A Yes.</p> <p>10 Q Do you recall why you prepared these</p> <p>11 slides for Dr. Gilson?</p> <p>12 A He must have been giving a presentation</p> <p>13 somewhere and asked me to put them together. I do</p> <p>14 not recall what he was giving presentation for.</p> <p>15 Q Okay.</p> <p>16 A Or who he was speaking to.</p> <p>17 Q So let's skip over the first few pages on</p> <p>18 backgrounds. I want to cover the slide that is</p> <p>19 labeled heroin chemistry pharmacology?</p> <p>20 A Uh-huh.</p> <p>21 Q The last bullet point describes that</p> <p>22 heroin has a half-life of only few minutes?</p> <p>23 A Yes.</p> <p>24 Q That's accurate?</p> <p>25 A Yes.</p>	<p style="text-align: right;">Page 120</p> <p>1 usage. It's not a metabolite of codeine or</p> <p>2 morphine.</p> <p>3 Q So, in other words, when you are testing</p> <p>4 samples in a suspected heroin overdose case, you</p> <p>5 would be looking for these three substances in the</p> <p>6 samples, correct, codeine, morphine and 6-AM?</p> <p>7 A Yes.</p> <p>8 Q And it is that 6-AM that tells you that it</p> <p>9 was actually heroin and not codeine or morphine that</p> <p>10 the person ingested?</p> <p>11 A Yes.</p> <p>12 Q Which sample are you testing for the 6-AM,</p> <p>13 where is sample drawn from?</p> <p>14 A We will test the femoral blood or the</p> <p>15 heart blood. And have mixed results on whether or</p> <p>16 not we will see the 6-acetylmorphine. The urine and</p> <p>17 vitreous humor are where we more likely are to find</p> <p>18 the acetylmorphine.</p> <p>19 Q And the timing of that test is important,</p> <p>20 right?</p> <p>21 A Yes.</p> <p>22 Q Because exactly what we read on one of the</p> <p>23 previous slides that 6-AM has a very small</p> <p>24 half-life?</p> <p>25 A Yes, has a very short half-life.</p>
<p style="text-align: right;">Page 119</p> <p>1 Q And then on the next page the first bullet</p> <p>2 reads, heroin is a rapidly deacetylated; is that</p> <p>3 correct?</p> <p>4 A Yeah, yes.</p> <p>5 Q Why don't you read it for us. Can you</p> <p>6 read the first three bullet points for us?</p> <p>7 A Okay. Heroin is rapidly deacetylated in</p> <p>8 the blood to 6-monoacetylmorphine. And we call that</p> <p>9 6-AM or 6-MAM, that's the abbreviation for that.</p> <p>10 6-AM has a half-life of 36 minutes and four times</p> <p>11 more potent than morphine. 6-AM is further</p> <p>12 hydrolyzed to morphine, most likely in the liver.</p> <p>13 Q So this describes that some of the</p> <p>14 challenges that you might have in identifying when</p> <p>15 heroin is present in a sample; is that right?</p> <p>16 A Yes.</p> <p>17 Q If you turn, skip the next page on</p> <p>18 pharmacology, we are going to go to the slide that</p> <p>19 is CCMEO toxicology. Can you read the second bullet</p> <p>20 point for us?</p> <p>21 A Instead, codeine, morphine and 6-AM are</p> <p>22 the analytes most commonly detected when testing</p> <p>23 biological fluids obtained from a heroin user.</p> <p>24 Q And last slide?</p> <p>25 A 6-AM is the conclusive evidence of heroin</p>	<p style="text-align: right;">Page 121</p> <p>1 Q In other words, it would be metabolized by</p> <p>2 the body fairly quickly?</p> <p>3 A Yes.</p> <p>4 Q So if you turn to the next slide. I think</p> <p>5 some of those limitations are discussed. It says,</p> <p>6 6-AM can be difficult to extract from postmortem</p> <p>7 samples?</p> <p>8 A I'm sorry, where are you?</p> <p>9 Q I'm sorry, I'm on the one that says CCMEO</p> <p>10 toxicology, under the legal limitations.</p> <p>11 A Okay.</p> <p>12 Q It says, 6-AM can be difficult to extract</p> <p>13 from postmortem samples; is that right?</p> <p>14 A Yes.</p> <p>15 Q And the next bullet point says, hospital</p> <p>16 treatment may allow for patient to metabolize all</p> <p>17 the 6-AM to morphine prior to death?</p> <p>18 A Yes.</p> <p>19 Q Last bullet point says, inconsistent</p> <p>20 rulings on cause of death, opiate versus heroin.</p> <p>21 Can you explain what you mean by that</p> <p>22 slide?</p> <p>23 A Back when I made this, if there wasn't</p> <p>24 6-AM detected in the toxicology department, some of</p> <p>25 the doctors were hesitant to rule the death a heroin</p>

<p style="text-align: right;">Page 122</p> <p>1 overdose. So they would say a more general opiate 2 overdose.</p> <p>3 I believe that they have become more 4 consistent with how they rule amongst all of the 5 pathologists and I think based off of histories, and 6 the information that we give them from toxicology, 7 they will more frequently say heroin as opposed to 8 generic opiate term.</p> <p>9 Q So what you are describing is that the 10 pathologists now if you find 6-AM in the samples 11 will try to, will try to as a general matter label 12 those deaths a heroin overdose?</p> <p>13 A I think that, so back then if there was 14 6-AM, they would rule it heroin. If there was not 15 6-AM, then they might just say opiate overdose. And 16 I think now that they are more frequently saying 17 heroin based off of the extensive investigation 18 reports we get.</p> <p>19 So if the person is a known heroin 20 user and the toxicology detects codeine and 21 morphine, they might be more likely to rule that 22 heroin, as opposed to using a more vague term of 23 just opiate overdose.</p> <p>24 Q Got it. In those instances where you 25 suspect that it was a heroin overdose and you find</p>	<p style="text-align: right;">Page 124</p> <p>1 MS. RANJAN: I think now would be a good 2 time to stop for lunch if that works for everyone.</p> <p>3 THE VIDEOGRAPHER: Off the record 12:04.</p> <p>4 (Recess)</p> <p>5 THE VIDEOGRAPHER: We're on the record</p> <p>6 12:48.</p> <p>7 Q (Ms. Ranjan) Miss Kaspar, we just took a 8 lunch break. We are going to continue your 9 testimony. Now you understand that you are still 10 under oath, right?</p> <p>11 A Yes.</p> <p>12 Q Um, this morning during your testimony you 13 talked about two different types of screening tests 14 that you use for opioid screening, I believe. One 15 of them you called comprehensive, the other one you 16 called basic.</p> <p>17 Do you recall that testimony?</p> <p>18 A Um, yes. They're not screening 19 techniques, that's just what the pathologist can 20 choose from to order.</p> <p>21 Q I see. So the pathologist can order 22 comprehensive screening or basic screening?</p> <p>23 A Yes, and then there's additional add ons 24 that they can add on to those too individually.</p> <p>25 Q Are those orders specific to overdose</p>
<p style="text-align: right;">Page 123</p> <p>1 codeine and morphine in the blood, now the 2 pathologist will probably rule that a heroin death?</p> <p>3 A I believe so, that's what I've seen on the 4 reports.</p> <p>5 Q But in the past there were instances where 6 you found codeine and morphine in the blood and the 7 person was a known heroin user, but those were ruled 8 just general opiate deaths?</p> <p>9 A I don't know if they were known heroin 10 users because we didn't have extensive investigation 11 reports prior, you know, previously.</p> <p>12 Q Okay.</p> <p>13 A So, yeah, from my end, I don't know if 14 they were.</p> <p>15 Q So there were those suspected heroin 16 overdose deaths where you did not detect 6-AMs in 17 the samples and those were ruled opiate deaths?</p> <p>18 A Yes, I don't know. I believe it was just 19 some of the pathologists were doing that, some might 20 have still called it a heroin overdose.</p> <p>21 Q And then in the last bullet point of the 22 slide it says, these limitations have caused the 23 actual numbers of heroin deaths in Cuyahoga County 24 to be under reported; is that right?</p> <p>25 A Yes.</p>	<p style="text-align: right;">Page 125</p> <p>1 deaths or are those general categories that cover 2 other things as well?</p> <p>3 A Um, it is completely up to the 4 pathologist. There is nothing dictates what has to 5 get a basic tox versus a comprehensive.</p> <p>6 Q I guess what I'm asking would a 7 toxicologist order a comprehensive or basic 8 toxicology screening and say you mention fire cases 9 earlier, a fire case?</p> <p>10 A So the toxicologist don't order it, it is 11 the pathologist who orders the testing.</p> <p>12 Q I'm sorry, I misspoke, yes. Would the 13 pathologist order a comprehensive or a basic 14 screening in a case other than an overdose case?</p> <p>15 A Yes, they may.</p> <p>16 Q What is included in the comprehensive 17 screening?</p> <p>18 A The comprehensive we will do a volatile 19 analysis, we will do the ELISA, we will do, um, a 20 basic screen. So typically in the urine if we are 21 provided urine in that case, um, if we are not 22 provided urine, then the blood base will be 23 performed.</p> <p>24 Um, a urine glucose ketone test will 25 be performed if we are provided with urine. We also</p>

<p style="text-align: right;">Page 126</p> <p>1 add testing for acetaminophen and salicylate, but 2 those have been canceled off of cases unless it is 3 someone who is under 18, or if they have on their 4 medication list that something they're taking 5 contains one of those two drugs.</p> <p>6 Um, so I said a volatile, a base, the 7 ELISA, and then the glucose ketone and, um, the 8 acetaminophen and salicylate. That's what we 9 included with the comprehensive.</p> <p>10 Q What does the volatile test screen for?</p> <p>11 A That is looking for volatile compounds. 12 So that typically would be ethanol, methanol, 13 acetone and isopropanol. As well as any type of 14 inhalant that somebody may have come in contact 15 with.</p> <p>16 Q What about ELISA screen, what does that 17 test?</p> <p>18 A ELISA is that 15 panel screen. Would you 19 like me to list all 15?</p> <p>20 Q Sure.</p> <p>21 A I will try to.</p> <p>22 Q It is not a memory test either. You can 23 just tell me. I assume, I think you said earlier on 24 the back of the toxicology reports there is a full 25 list of what is available?</p>	<p style="text-align: right;">Page 128</p> <p>1 A So it will receive some sort of basic 2 testing and basic I'm referring to PH.</p> <p>3 Q Oh, acidic versus basic?</p> <p>4 A So if we have a urine, that's where we 5 would start. We add the base screen or the basic 6 screen on the urine. If we don't have a urine 7 provided to us for autopsy or from receiving, then 8 it will just get a blood base is what we call.</p> <p>9 Q What kind of substances are you looking 10 for there?</p> <p>11 A That is a full scan assay. So you're not 12 targeting anything. We can find a wide variety of 13 drugs and you don't have to know what you are 14 looking for and you get matches. So that you will 15 see peaks that correspond to drug analytes, and we 16 have built in library search matches. So if you 17 click on those peaks, it will give you a percentage 18 match to known drugs that are in the library.</p> <p>19 Q Okay. And the acetaminophen, I probably 20 horribly mispronounced, what was the acetaminophen 21 test?</p> <p>22 A The acetaminophen and salicylate test, 23 those are color tests.</p> <p>24 Q You said you only use those for minors now 25 or if there is a medication listed that indicates a</p>
<p style="text-align: right;">Page 127</p> <p>1 A Yes.</p> <p>2 Q Are the 15 substances listed there on the 3 back of that toxicology report?</p> <p>4 A They are, yes.</p> <p>5 Q We can refer back to that, but just 6 generally speaking tell me what the test looks for?</p> <p>7 A We are looking for illicit drugs, cocaine, 8 methamphetamine, amphetamine, marijuana, PCP, we 9 have plates for groups of drugs, so tricyclic 10 antidepressants. Opiates, Fentanyl, we have a plate 11 specific to Oxycodone and Oxymorphone. Um, we have 12 Zolpidem, Buprenorphine, Methadone. I think that's 13 covering most of that.</p> <p>14 Q Okay. Those would all be included if the 15 pathologist orders the comprehensive screening?</p> <p>16 A All the ELISA plates.</p> <p>17 Q All the ELISA plates would be included if 18 the pathologist orders comprehensive toxicology 19 testing?</p> <p>20 A Yes, if they order basic that also they 21 would get the ELISA screen.</p> <p>22 Q Okay. And then you have said the 23 comprehensive also includes a basic urine screen, is 24 that what you said? What was the third category 25 that you said was in the comprehensive?</p>	<p style="text-align: right;">Page 129</p> <p>1 need to do so?</p> <p>2 A Yes.</p> <p>3 Q Why are you only running those on minors?</p> <p>4 A Just to cut down the amount of testing 5 that we were doing and we weren't getting a good 6 return for performing all of that testing. Mostly 7 they were coming back negative or the positives that 8 we generate, we don't have a confirmation for the 9 acetaminophen or the salicylate in-house. So we 10 have to send those out to get the quantitation on 11 them.</p> <p>12 So only when they feel like that's 13 the actual cause of death would they, or 14 contributing to the cause of death would they have 15 us send that out. And I believe that there are, um, 16 things that they can see at autopsy that would lead 17 them to believe that acetaminophen, definitely 18 acetaminophen, I'm not sure about salicylate, that 19 they were involved frequently also on scene. There 20 may be an empty bottle and then that would indicate 21 we need to test for that further.</p> <p>22 Um, with children I believe the 23 thought was let's be as comprehensive as we can with 24 them.</p> <p>25 Q So there's the volatile, the ELISA, the</p>

<p style="text-align: right;">Page 130</p> <p>1 basic urine screen, the urine glucose, the 2 acetaminophen test and was there one other one? 3 A Um, the a acetaminophen and the 4 salicylate. 5 Q Okay. And that's everything that is 6 included in the comprehensive screening? 7 A Yes. 8 Q And then you said that there was a period 9 of time where you were only using, you were only 10 screening for 13 substances with the ELISA and that 11 changed to 15. What were the two substances that 12 were added? 13 A We added Zolpidem and we added 14 Buprenorphine. 15 Q When did that happen? 16 A Maybe around 2015-ish I would say. 17 Q During your time at CCMEO, has there been 18 any other change to the comprehensive screening, 19 what's included in the comprehensive screening? 20 A Yes. We used to include the acidic 21 neutral test also, but we felt that with our ELISA, 22 sorry, I forgot to mention these two. There's a 23 plate for barbiturates and there's a plate for 24 carisoprodol, which are many of the, which would 25 encompass many of the analytes that we would see in</p>	<p style="text-align: right;">Page 132</p> <p>1 you mentioned that there was a standardization 2 effort that began among the pathologists when they 3 were ruling a suspected heroin overdose. 4 Do you recall that testimony? 5 A Yes. 6 Q Do you know when that change, or that 7 standardization effort occurred? 8 A I do not know. 9 Q Was it recent? 10 A Um, I really don't know and I don't know 11 if anything, I guess that was just an assumption I 12 made because I have seen them ruling more 13 specifically over probably since 2015-ish. 14 So I don't know specifically that a 15 conversation was had, it just appears that there was 16 a conversation. 17 Q I see. You're not aware that they 18 actually had that conversation and made a decision 19 to change their policy? 20 A No. 21 Q Okay. And so then I assume you are also 22 not aware of any documentation of any kind of policy 23 change in that regard? 24 A No, I'm not. 25 Q Is there a way for us to look back at the</p>
<p style="text-align: right;">Page 131</p> <p>1 our acidic neutral assay. 2 Q Those are in ELISA screen? 3 A They would be either on the barbiturate 4 plate or the carisoprodol plate. 5 So the acidity neutral test has 6 become an assay that the pathologist would have to 7 specifically order or if we see a person has a 8 history of seizures, we have been adding the acidic 9 neutral test. 10 Q When did that change happen? 11 A Maybe 2017. 12 Q Any other changes that have been made to 13 the comprehensive screening test in your time at 14 CCMEO? 15 A Not that I can remember. 16 Q And then let's talk about the basic 17 screening test, what's included there? 18 A Just the ELISA. 19 Q Okay. Other than the changes to the ELISA 20 over time that we have already discussed, have there 21 been any other changes to the basic screening test 22 in your time at CCMU? 23 A No. 24 Q Okay. When we talked about the heroin 25 slides earlier, you mentioned, that was Exhibit 3,</p>	<p style="text-align: right;">Page 133</p> <p>1 deaths, the overdose deaths that were ruled general 2 opiate overdose deaths that you had mentioned 3 earlier to determine whether heroin was, in fact, 4 the cause of death in those cases? 5 A Can you rephrase that? 6 Q Sure. You testified about a number of 7 cases where they were suspected heroin overdose, but 8 6-AM was not able to be confirmed. And I believe 9 your testimony was that some of those were ruled 10 opiate deaths, right? 11 A Yes. 12 Q And for those cases with the cause of 13 death on the death certificate say opiate overdose? 14 A Um, I believe I have seen it specifically 15 say opiate overdose and it did not specify which 16 opiate. 17 Q Do you know if there were also cases that 18 were ruled codeine overdose or morphine overdose 19 that were actually suspected heroin overdose? 20 A There may have been. 21 Q So is there a way for us to retroactively 22 go back and determine which ones were the suspected 23 heroin overdoses? 24 A Our office does have a statistics program. 25 Not in toxicology and I've not used it, but we do</p>

<p style="text-align: right;">Page 134</p> <p>1 have a woman who can run statistics and I believe 2 you could do a code word search for opiate to appear 3 in the cause of death.</p> <p>4 So then you could probably find cases 5 that have the word opiate in the cause of death and 6 find cases like that.</p> <p>7 Q Or where they had codeine or morphine in 8 the cause of death?</p> <p>9 A Yes, right, you could search for any of 10 those terms and find what cases used those terms in 11 the cause of death.</p> <p>12 Q And then from there, if we wanted to 13 narrow that down to only list set of cases that were 14 suspected heroin overdoses, is there some way that 15 we can do that?</p> <p>16 A The toxicology reports would be helpful 17 with that. There are codeine to morphine ratios 18 reported in journals that show what typically you 19 are going to see in a heroin overdose with a codeine 20 to morphine ratio just as a general. I don't know 21 what the exact number or what the typical ratio is, 22 but you normally will see higher morphine level 23 compared to the codeine.</p> <p>24 So you could look at the toxicology 25 report and if there's a large codeine that wouldn't</p>	<p style="text-align: right;">Page 136</p> <p>1 Q There's not a column in your Pathways 2 database that would allow us to filter, these were 3 all suspected heroin overdoses, right?</p> <p>4 A In Pathways, no.</p> <p>5 Q Or in any other databases?</p> <p>6 A Um, I don't know how their statistic 7 program works. I know that they have done searches 8 on cause of death, that's why I know that they can 9 do that, but I'm not certain what other type of 10 searches they can do in it.</p> <p>11 Q Uh-huh. In other words, in order to 12 determine from the cases, if we were to create the 13 list of cases you suggested, where we search on 14 cause of death is opiate or cause of death includes 15 the word codeine or morphine, if we were to have 16 that set. In order to determine whether it was, 17 whether heroin was suspected in the overdose, we 18 would need to do an individual review of each case 19 file, is that what you are saying?</p> <p>20 A Yes.</p> <p>21 Q Okay. I'd like to talk about some of your 22 time when you came back to CCMEO around 2010. 23 Around that time at CCMEO, there was a dramatic 24 increase in heroin related deaths, right?</p> <p>25 A That's when I started noticing that the</p>
<p style="text-align: right;">Page 135</p> <p>1 be expected, just a large codeine on its own that's 2 not going to be expected to be heroin related. Just 3 a large morphine on its own would not be expected to 4 be heroin related. So you could rule some out like 5 that.</p> <p>6 Q Why is that?</p> <p>7 A Um --</p> <p>8 Q Why is it that just a large codeine or 9 large morphine on its own would not be suspected to 10 be heroin related?</p> <p>11 A So codeine is not a metabolite of heroin, 12 it just shows up as an impurity. So if you have a 13 really large codeine, you would expect that there 14 would be a lot of heroin, which we don't look for 15 heroin, but you would expect then to see a large 16 morphine with it. As well as probably 6-AM if it is 17 that large that you are seeing a large enough 18 codeine that the doctor felt like that caused the 19 death.</p> <p>20 Q Got it.</p> <p>21 A For the morphine, that would be the same. 22 Morphine is a metabolite of heroin, but if you have 23 such a large amount that they are going to say that 24 that was lethal, I would suspect I would see some 25 codeine and most likely some 6-acetylmorphine.</p>	<p style="text-align: right;">Page 137</p> <p>1 heroin deaths were increasing.</p> <p>2 Q In fact in your words the increase in 3 heroin deaths started between 2006 and 2011 was 4 dramatic?</p> <p>5 A I felt that the increase from 2006 to 2011 6 was dramatic.</p> <p>7 Q It was alarming?</p> <p>8 A Yes.</p> <p>9 Q When you discovered that dramatic and 10 alarming increase in heroin deaths, did you do 11 anything about it?</p> <p>12 A Um, I talked to Eric Lavins and told him 13 that, what I was noticing. And then we, um, ran the 14 statistical analysis in Pathways to search for 15 6-acetylmorphine to see how many cases we had put 16 that result for. And that gave us an idea of how 17 many cases we had for, I don't know what year I had 18 told him about this. And so then we did notice that 19 they had increased.</p> <p>20 Q Did you do anything else in responding to 21 this trend?</p> <p>22 A Um, I must have told Dr. Gilson about it. 23 And then an intern and I put together some data. So 24 we ran that statistical analysis on all of those 25 years on 2006, 2007, 2008, 2009, 2010, and I guess</p>

<p>1 2011.</p> <p>2 And we just, we found the number of 3 cases that we had reported 6-acetylmorphine for all 4 of those different years and we ended up putting 5 together a poster presentation with that information 6 and also we gave a PowerPoint presentation to the, 7 it was chief of police meeting in our office. And 8 then we also presented that information to OFTA, the 9 Ohio Forensic Toxicologist Association.</p> <p>10 So I think that that PowerPoint for 11 the police chiefs and OFTA was the same information. 12 And then later on we made the poster presentation 13 using a lot of the same information.</p> <p>14 Q Do you know if the CCMEO office undertook 15 any efforts to inform the general public about this 16 trend?</p> <p>17 A Yeah, there were press releases frequently 18 about the increase in heroin. Specifically, I 19 remember when we would have a lot of death cases 20 that appear to be overdoses based off of the scene 21 investigation. Dr. Gilson would have us rush those 22 cases and do the ELISA and the confirmation so that 23 we could definitively say that they were overdoses 24 and release that information to the public. Trying 25 to inform people that maybe there was a particularly</p>	<p>Page 140</p> <p>1 talk on rising heroin overdose death, sorry, rising 2 heroin deaths in Cuyahoga County that a toxicology 3 staffer, Claire Naso and intern, Rindi Norris, 4 presented at the police chiefs meeting last week. I 5 think it succinctly summarizes the public health 6 disaster this has become and the graphs are 7 especially brilliant.</p> <p>8 Did I read that correctly?</p> <p>9 A Yes.</p> <p>10 Q Is this the attached presentation, is this 11 the presentation that you gave to the police chiefs 12 that you referred to earlier?</p> <p>13 A Yes.</p> <p>14 Q And do you agree with Dr. Gilson's 15 characterization that the incidents of heroin around 16 this time were a public health disaster?</p> <p>17 MR. GALLUCCI: Objection, beyond the 18 scope.</p> <p>19 A Um, I don't know what makes a public 20 health disaster, but they were certainly increasing 21 in number.</p> <p>22 Q (Ms. Ranjan) They were increasing enough 23 that you undertook to inform your supervisors about 24 your concerns, correct?</p> <p>25 A Yes.</p>
<p>Page 139</p> <p>1 batch of heroin out on the streets or something 2 along those lines.</p> <p>3 Q Did you ever participate in putting 4 together those press releases?</p> <p>5 A No, other than providing the data from our 6 analysis.</p> <p>7 Q Did you ever review them before they went 8 out?</p> <p>9 A No.</p> <p>10 Q Did you ever review them after they went 11 out?</p> <p>12 A I mean, I think I saw them maybe on the 13 news or something like that, but no one specifically 14 asked me to review them.</p> <p>15 (Deposition Exhibit Number 4 16 marked for identification.)</p> <p>17 Q (Ms. Ranjan) Okay. I just handed you 18 what's been marked as Exhibit 4. The cover email is 19 an email from Thomas Gilson, the medical examiner, 20 to a Matt and Joe, who are not identified in this 21 document the way it was produced. And the subject 22 is heroin presentation. I will give you a moment to 23 review it, but in the body he references some 24 attached slides.</p> <p>25 He says, I am attaching slides from a</p>	<p>Page 141</p> <p>1 Q And they were increasing enough that you 2 say Cuyahoga County issued press releases about it, 3 correct?</p> <p>4 A Sorry, say that again?</p> <p>5 Q The instances of heroin deaths were 6 increasing significantly enough that the CCMEO 7 released press releases about it, correct?</p> <p>8 A Yes.</p> <p>9 Q And if we could just take a look at first 10 of all the title page, Alarming Incidents of Heroin 11 Deaths in Cuyahoga County. You are listed here, 12 along with Rindi Norris, who is the intern, right?</p> <p>13 A Yes.</p> <p>14 Q Turning the page background information. 15 The purpose of this slide, I assume, is to capture 16 some of what we discussed earlier about the 17 difficulty in sometimes identifying heroin in your 18 samples; is that correct?</p> <p>19 A Yes.</p> <p>20 Q Flipping the page to methods. It says 21 data from 2006 to 2011 was analyzed using a 22 statistical package which is part of the tox lab's 23 Pathways program. Does that describe the process 24 that you and the intern engaged in looking at the 25 statistics?</p>

<p style="text-align: right;">Page 142</p> <p>1 A Yes.</p> <p>2 Q It says, the search for 6-AM was performed 3 and any cases positive for 6-AM were pulled for this 4 study.</p> <p>5 Is that accurate?</p> <p>6 A Yes.</p> <p>7 Q And the next bullet says, this data is 8 most likely underreporting the actual number of 9 heroin overdoses.</p> <p>10 Is that accurate?</p> <p>11 A Oh, yes.</p> <p>12 Q And that's because as we discussed 13 earlier, sometimes that 6-AM will be difficult to 14 identify even when there is a heroin overdose, 15 correct?</p> <p>16 A Yes.</p> <p>17 Q The next bullet says, hospital stays, 18 opiate versus heroin related COD.</p> <p>19 What did you mean by that, what was 20 that meant to portray?</p> <p>21 A So the hospital stays that will, if 22 somebody were to overdose, but they're transferred 23 to the hospital, they will continue to metabolize 24 the drug out of their system. So we may or may not 25 receive hospital specimen from that decedent. If</p>	<p style="text-align: right;">Page 144</p> <p>1 a presentation of the analysis that you and Rindi 2 the intern did to come up with the heroin overdose 3 numbers?</p> <p>4 A Yes.</p> <p>5 Q And at the bottom you indicate that 6 there's been 112 percent increase since 2006 in 7 heroin overdoses?</p> <p>8 A Yes.</p> <p>9 Q And that's based on in 2006 there were 52 10 heroin overdoses and 2012, I'm sorry, 2011 there 11 were 108?</p> <p>12 A Yes, but I believe I calculated that not 13 with the raw number and instead with the heroin 14 deaths per 100,000 because this number takes into 15 account the population in all of those years.</p> <p>16 Q That makes sense.</p> <p>17 Turning to the city summary towards 18 the back.</p> <p>19 A Okay.</p> <p>20 Q I think this is sort of the concluding 21 slide in the deck. It says heroin deaths have 22 dramatically increased in Cuyahoga County over the 23 past six years?</p> <p>24 A Uh-huh.</p> <p>25 Q Is that what you concluded?</p>
<p style="text-align: right;">Page 143</p> <p>1 all we have is postmortem blood and they were in the 2 hospital for two weeks due to a heroin overdose. We 3 are not going to be able to find any of the drug 4 left in their system that had caused the incident. 5 So that is what the hospital stay means.</p> <p>6 Q And then what does the police report does 7 not equal COD mean?</p> <p>8 A I am not sure. It looks like I'm 9 specifically where I say Independence 2011. There 10 must have been a specific case out of Independence 11 that I was referencing. I believe what I mean by 12 the police report does not equal cause of death.</p> <p>13 The police report could say that this 14 person, you know, the people on scene said that that 15 person had just injected heroin, but it may turn out 16 that it is actually Fentanyl. So you wouldn't just 17 take that police report and say, okay, this is a 18 heroin death because we would do our testing and 19 find out it is not, it is a Fentanyl overdose.</p> <p>20 Q Similarly the police might say something 21 was cocaine, for instance, turns out that it might 22 actually be heroin, right?</p> <p>23 A Yes.</p> <p>24 Q And turn to the next slide. Heroin Deaths 25 in Medical Examiner Jurisdiction Cases. So this is</p>	<p style="text-align: right;">Page 145</p> <p>1 A Yes.</p> <p>2 Q And in the City of Cleveland they've 3 increased by about 77 percent; is that right?</p> <p>4 A Yes.</p> <p>5 Q While in suburbs of Cuyahoga County they 6 increased about 176 percent?</p> <p>7 A Yes.</p> <p>8 Q Okay. You can set that aside.</p> <p>9 As a result of increasing heroin 10 deaths in Cuyahoga County, the CCMEO office decided 11 to form what they cause the Poison Death Review 12 Committee; is that right?</p> <p>13 A Yes.</p> <p>14 Q You were a member of the Poison Death 15 Review Committee?</p> <p>16 A I was.</p> <p>17 Q Committee was formed around 2012; is that 18 right?</p> <p>19 A I believe that the meetings were in 2013.</p> <p>20 So it may have been formed in 2012.</p> <p>21 Q Did the Poison Death Review Committee ever 22 look at deaths other than heroin?</p> <p>23 A No, we were specifically looking at heroin 24 overdoses.</p> <p>25 Q How would you describe the goals of the</p>

<p style="text-align: right;">Page 146</p> <p>1 Poison Death Review Committee?</p> <p>2 A Um, the goals were to get a group of</p> <p>3 people from a bunch of different agencies in</p> <p>4 Cuyahoga County who may all have interacted with</p> <p>5 these decedents. Obviously, prior to their</p> <p>6 overdose. Um, and gather information on points</p> <p>7 where there may be intervention, or places where we</p> <p>8 feel like maybe we could provide some education.</p> <p>9 So it was identifying maybe groups of</p> <p>10 people that would benefit from education on the</p> <p>11 topic of addiction, specifically heroin addiction or</p> <p>12 opioids with the medical examiner's office. The</p> <p>13 data that we were generating was from deaths that</p> <p>14 were heroin related.</p> <p>15 So, um, we would put together, there</p> <p>16 was a whole questionnaire that Dr. Gilson would fill</p> <p>17 out on each decedent that we discussed each month</p> <p>18 and we had a lot of the information on their deaths,</p> <p>19 for instance, from the investigation reports. So we</p> <p>20 could know if the person had been using drugs by</p> <p>21 themselves or if there were other people present.</p> <p>22 If they had been recently</p> <p>23 incarcerated, if they had been in a county run</p> <p>24 rehabilitation facility, if they had been involved</p> <p>25 in the drug court program in Cuyahoga County.</p>	<p style="text-align: right;">Page 148</p> <p>1 A I don't think so. I think the purpose was</p> <p>2 to see if we could help the community using our</p> <p>3 information that we had on the decedent.</p> <p>4 Q But specifically you wanted to help the</p> <p>5 community by identifying points for intervention and</p> <p>6 points for providing education?</p> <p>7 A Yes.</p> <p>8 Q And do you recall what points for</p> <p>9 intervention the committee was able to identify?</p> <p>10 A Um, so Dr. Gilson wrote up a letter and</p> <p>11 inmates leaving the county jail were provided with</p> <p>12 that letter, I think regardless of if they were</p> <p>13 known to be addicts or not. It was educating them</p> <p>14 on tolerance and warning them of the dangers of</p> <p>15 going back to using drugs after they've been</p> <p>16 incarcerated so their tolerance would be down.</p> <p>17 I'm not sure if those letters also</p> <p>18 went out to people leaving the rehab facilities, I'm</p> <p>19 not sure about that, but I know the jail for sure.</p> <p>20 I know that they wanted to get</p> <p>21 Naloxone into more people's hands and I believe that</p> <p>22 also did occur.</p> <p>23 Project DAWN originally was only</p> <p>24 dispensing Naloxone to known addicts. They would</p> <p>25 have to come and sign up and they could get the</p>
<p style="text-align: right;">Page 147</p> <p>1 If the ADAMHS Board had any</p> <p>2 interactions with this person, we looked at the</p> <p>3 others reports to see if they had been prescribed</p> <p>4 other controlled substances. So we did a really</p> <p>5 comprehensive review on all of the heroin deaths to</p> <p>6 try to find intervention points.</p> <p>7 Q When you started you were looking at the</p> <p>8 heroin deaths in 2012; is that correct?</p> <p>9 A I don't recall looking at the ones in</p> <p>10 2012. I'm pretty sure that in 2013, each month I</p> <p>11 was given a list of the people who had died the</p> <p>12 previous month and then we discussed them at the</p> <p>13 meetings.</p> <p>14 I think the 2012 stuff was all done</p> <p>15 by Dr. Gilson, and maybe he had somebody helping</p> <p>16 him.</p> <p>17 Q Okay. So to summarize your answer to my</p> <p>18 prior question about the goals, I believe you said</p> <p>19 that the goals were to identify points of</p> <p>20 intervention and points to provide education?</p> <p>21 A Yes.</p> <p>22 Q And it is fair to say one of the other</p> <p>23 goals was to do just a comprehensive review of each</p> <p>24 case. What was the purpose, were there any other</p> <p>25 purposes of that comprehensive review?</p>	<p style="text-align: right;">Page 149</p> <p>1 Naloxone prescribed to themselves. I believe it</p> <p>2 expanded to family members could come to the free</p> <p>3 clinic and they could get a Naloxone kit.</p> <p>4 I think right now anybody in the</p> <p>5 community can go to the free clinic and get a</p> <p>6 Naloxone kit. I also know that a lot more first</p> <p>7 responders are carrying Naloxone kits.</p> <p>8 Q Okay. So other than educating individuals</p> <p>9 who are coming out of the county jails and maybe</p> <p>10 individuals who are in rehab facilities with this</p> <p>11 Dr. Gilson letter and then expanding Project DAWN to</p> <p>12 put Naloxone in more hands, including in the hands</p> <p>13 of emergency responders, were there any other points</p> <p>14 of intervention that the committee identified?</p> <p>15 A I don't remember specifically. I'm sure</p> <p>16 Dr. Gilson would know all of the points that were</p> <p>17 addressed.</p> <p>18 Q You participated in most of the meetings,</p> <p>19 right?</p> <p>20 A Yes.</p> <p>21 Q And those are the two that you remember?</p> <p>22 A Yes.</p> <p>23 Q And what about points for providing</p> <p>24 education. What do you recall about what the</p> <p>25 committee determined there?</p>

<p style="text-align: right;">Page 150</p> <p>1 A Um, I think that that goes along with 2 those letters that went out to the people leaving 3 jail because of educating them on tolerance. 4 And I'm not positive, I've never sat 5 in on like final meetings of like what was going to 6 happen from the data that was collected. I remember 7 talks about talking with the VA Hospital because it 8 had been identified that there were a number of 9 veterans that were, that appeared to be addicted and 10 had died of heroin overdoses. So that might be a 11 point where they were going to give some education. 12 Q So the committee identified these points 13 for intervention and points for education and then 14 at some point there was a final meeting to determine 15 which suggestions would actually be adopted, is that 16 what you were saying? 17 A Yeah, or what to act on based on what was 18 determined from all of those meetings. 19 Q And you weren't at that meeting? 20 A I was not. 21 Q But you were at the majority of the 22 meetings prior to that? 23 A Yes. 24 Q Do you recall any other points that were 25 identified for providing education other than VA</p>	<p style="text-align: right;">Page 152</p> <p>1 the individual. 2 Q So Dr. Gilson was the person who actually 3 filled out the form? 4 A Yes. 5 Q But this form reflects the type of 6 information that the committee was attempting to 7 collect on each case? 8 A Yes. 9 Q And then if you turn the page. There is 10 what appears to be an agenda for the first meeting, 11 is that what this is? 12 A Yes. 13 Q As you said, the first meeting was in 14 February 2013? 15 A Yes. 16 Q And the members are listed here. I would 17 just like to go through them briefly. 18 So obviously you and Dr. Gilson were 19 members, who is Erin Worrell? 20 A She is an investigator in our office. 21 Q Does she still work at your office? 22 A She does. 23 Q And who is Vince Caraffi? 24 A He worked for the Cuyahoga Board of 25 Health. I don't know what position he held there.</p>
<p style="text-align: right;">Page 151</p> <p>1 Hospitals? 2 A No, I don't. 3 (Deposition Exhibit Number 5 4 marked for identification.) 5 Q (Ms. Ranjan) I'm handing you what has 6 been marked as Exhibit 5. This is an email from 7 Thomas Gilson to you and several other individuals 8 regarding the Poison Death Review Committee. 9 Based on my review I believe that 10 this is the first email, one of the first emails 11 that was sent out to the committee members sort of 12 kicking off the committee, is that a fair 13 characterization? You can take your time to review 14 it if you need to. 15 A Yes, I think that's a good description. 16 Q If you look at the attachments, looks like 17 there's a case review form, it mentions several of 18 the points of information that you discussed in a 19 previous answer. Things like previous medical 20 treatment, previous detoxification, rehabilitation, 21 previous arrest, previous law enforcement contact. 22 Is this the form that the committee used when they 23 were reviewing the cases? 24 A So I believe that Dr. Gilson would sit 25 there with this form and fill it in as we discussed</p>	<p style="text-align: right;">Page 153</p> <p>1 Q What about Kevin Sur? 2 A I do not know Kevin Sur. 3 Q You don't remember him? 4 A No. 5 Q Do you know what EMA is? 6 A I don't. 7 Q What about Chief Joe Zemek? 8 A No, I don't remember him either. It says 9 he's the fire chief of the City of Brooklyn. 10 Q You don't remember him participating in 11 the meetings? 12 A Um, no, I specifically don't remember him. 13 He may have been there, but I just don't remember 14 him. 15 Q How about Rose Allen? 16 A Yes, I remember her. 17 Q She's with the Northern Ohio Academy 18 Pharmacy? 19 A Yes. 20 Q You remember Frank Bova? 21 A I don't remember if he was ever at any of 22 these. 23 Q What about Tim Ol -- 24 A Oleksiak. 25 Q O-L-E-K-S-I-A-K.</p>

<p style="text-align: right;">Page 154</p> <p>1 A I don't know. I think that at every 2 meeting there typically was a representative from 3 the sheriff's office, which is what the CCSO is. I 4 don't know if it was this Tim person though, it 5 might have been different people. 6 Q So different people who came each time to 7 represent the sheriff's office? 8 A Yes. 9 Q What about Danny Williams? 10 A No, I don't remember him either. 11 Q How about Christine Delos-Reyes? 12 A Yes, I remember her. 13 Q She's with the ADA and ADAMHS Board? 14 A Yes, she was. She is not with them any 15 longer. 16 Q Do you stay in touch with her? 17 A No, I don't. 18 Q What about Jeff Capretto? 19 A Yes, I remember Jeff. 20 Q What organization is he from? 21 A Um, I believe that he was a police 22 officer. I don't know what city he was police 23 officer for. It was one of the west side suburbs. 24 I guess maybe it was Bay Village, but I don't 25 remember that specifically. And I think maybe he</p>	<p style="text-align: right;">Page 156</p> <p>1 Q He runs the drug court in Cuyahoga County? 2 A He does, yeah. 3 Q Do you recall anyone else participating 4 frequently in the Poison Death Review Committee 5 who's not listed here? 6 A No. 7 Q Do you recall anyone else participating at 8 all who's not listed here? 9 A No, I don't think so. 10 Q Okay. Then on the next page, it looks 11 like when Dr. Gilson sent this email out, he 12 attached some statistics to the back and these 13 appear to be statistics on drug overdose deaths over 14 the years. 15 Do you see that? 16 A I do. 17 Q Is this information that you reviewed in 18 connection with your work on the Poison Death and 19 Review Committee? 20 A Not specifically. He sent this, so I most 21 likely saw this document, but this was not generated 22 through that Poison Death Review Committee. These 23 are probably just statistics from the office in 24 general. 25 Q You think they're from the CCMEO?</p>
<p style="text-align: right;">Page 155</p> <p>1 was on the task force or something. 2 Q Do you remember which task force? 3 A I don't. 4 Q Did he participate extensively? 5 A Yeah, he was there. 6 Q How did about the Honorable C. Ellen 7 Connally? 8 A No, I don't remember her ever being there. 9 Q Vince Holland? 10 A I remember Vince. 11 Q Was he participating extensively? 12 A He must have been there frequently if I 13 remember him. Oh, wait, no, sorry I remember Vince 14 Caraffi, I do not know if I remember Vince Holland. 15 Q How about Luis Vasquez? 16 A No, off the top of my head I don't 17 remember who that is. 18 Q Do you know what the office of reentry is? 19 A I do not. 20 Q How about the Honorable David T. Matia? 21 A Yes, Judge Matia was there just about 22 every meeting. 23 Q And he must have been participating as 24 well? 25 A Yes.</p>	<p style="text-align: right;">Page 157</p> <p>1 A Yes. 2 Q Overdose death statistics? 3 A Yes. 4 Q And these reflect that trend that you 5 noted earlier in a dramatic rise in overdose deaths? 6 A Yes, on this page you can see the numbers. 7 They have the raw numbers of cases, of heroin deaths 8 and they do increase. 9 Q So, for instance, we will skip 2012 since 10 it looks like those figures were projected, but in 11 2011 it looks like the office had 296 drug overdose 12 deaths? 13 A That's total, yes, that's all drugs. So 14 that could have been prescription or illicit, 15 everything. 16 Q And of those 296, it looks like 107 were 17 heroin related? 18 A Yes. 19 Q And 94 were cocaine related? 20 A Yes. 21 Q And 34 were Oxycodone related? 22 A Yes. 23 Q Do you know why Oxycodone specifically was 24 included on these charts? 25 A Um, I mean I can't be certain, but I know</p>

<p style="text-align: right;">Page 158</p> <p>1 that, um, people were concerned about prescription 2 opioids being a problem, a problem to the general 3 public. So it may have been on there to show that 4 the numbers are much lower than the heroin.</p> <p>5 Q They're much lower than the cocaine also, 6 right?</p> <p>7 A Yes.</p> <p>8 Q You can set that one aside.</p> <p>9 (Deposition Exhibit Number 6 10 marked for identification.)</p> <p>11 Q (Ms. Ranjan) I'm showing you what's been 12 marked as Exhibit 6 to your deposition. This 13 appears to be meeting minutes from the 14 February 26th, 2013 meeting, is that accurate?</p> <p>15 A Yes.</p> <p>16 Q First of all, were meeting minutes 17 circulated after each of the meetings?</p> <p>18 A I believe that they were. They were 19 maybe, I don't remember how they were circulated, 20 possibly the next meeting when we came in we might 21 have gotten the meeting minutes from the prior 22 meeting.</p> <p>23 Q Okay. I'd like to look at the last 24 paragraph on the first page. It says, interim 25 report of 2012 cases January through October it says</p>	<p style="text-align: right;">Page 160</p> <p>1 going to make the assumption that they are talking 2 about heroin overdoses. And somebody must have gone 3 through those 132 cases probably using something 4 similar to the checklist that we used at the Poison 5 Death Review Committee meetings and filled them out 6 for those 132 cases from 2012 and then generated 7 these statistics from that.</p> <p>8 Q Is this the kind of information that you 9 reviewed at the committee meetings?</p> <p>10 A Yes.</p> <p>11 Q So it looked like in 2012 there was 12 Naloxone being administered in 19 percent of the EMS 13 responses.</p> <p>14 Do you recall discussing that?</p> <p>15 A I don't recall specifically discussing 16 that, but we did discuss that was one of the check 17 boxes on that list was about Naloxone being 18 administered.</p> <p>19 Q That was one of the recommendations coming 20 out of the committee was attempt to increase the 21 availability of Naloxone, right?</p> <p>22 A Yes.</p> <p>23 Q And paraphernalia was present in 24 53 percent of the cases.</p> <p>25 Do you see that?</p>
<p style="text-align: right;">Page 159</p> <p>1 see attached.</p> <p>2 A I'm sorry, where are you?</p> <p>3 Q I'm on the last paragraph of the first 4 page.</p> <p>5 A Okay.</p> <p>6 Q Do you have any idea where this 7 information came from, these statistics?</p> <p>8 A Okay. What was the question?</p> <p>9 Q Where this information came from?</p> <p>10 A Um --</p> <p>11 Q Or who compiled it?</p> <p>12 A Who generated the information. I do not 13 know who put together these statistics.</p> <p>14 Q Is this information that would have been 15 available in the medical examiner's office?</p> <p>16 A Um, to the general public you mean?</p> <p>17 Q Just in general. For instance, looks like 18 there are some stats on Naloxone administration, 19 previous arrest and incarceration. It appears to me 20 this data was compiled from a number of sources?</p> <p>21 A So what it looks like to me that they went 22 over the cases that had been ruled on for 2012 at 23 that point. So that's why it is January through 24 October. And so that's where that 132 comes from. 25 They must have come up with 132 cases, and I am</p>	<p style="text-align: right;">Page 161</p> <p>1 A Yes.</p> <p>2 Q Do you know if that information was based 3 on the medical examiner files?</p> <p>4 A I believe that it was based on the 5 investigation reports generated by our office.</p> <p>6 Q And then it looks like in the 2012 cases 7 that were examined, there was known previous illicit 8 drug use in 79 percent of the cases.</p> <p>9 Do you see that?</p> <p>10 A Yes.</p> <p>11 Q You can set that one aside.</p> <p>12 (Deposition Exhibit Number 7 13 marked for identification.)</p> <p>14 Q (Ms. Ranjan) Okay. I'm handing you 15 what's been marked as Exhibit 7 and this appears to 16 be the meeting minutes from the June 25th meeting of 17 the Poison Death Review Committee.</p> <p>18 Do you see that?</p> <p>19 A Yes.</p> <p>20 Q And you're listed, again, as present at 21 that meeting?</p> <p>22 A Yes.</p> <p>23 Q And at the bottom of the first page, 24 again, it looks like there's some statistics about 25 some of the 2012 cases. And these appear to be</p>

<p>1 OARRS statistics. 2 Do you see that? 3 A I do. 4 Q Were you involved in creating these other 5 statistics? 6 A I may have been. I do not remember. I 7 specifically remember pulling the ones for 2013 8 because I would bring those with me to the meetings. 9 I cannot remember if I'm the one who generated the 10 reports for the 2012. 11 Q Okay. You received OARRS access 12 approximately one month prior to this; is that 13 right? 14 A One month prior to the -- 15 Q June 25th meeting? 16 A Oh. 17 Q Or sometime let's say in early to mid 2013 18 you receive OARRS access? 19 A I don't remember when I received OARRS. 20 Q Okay. At some point in time you requested 21 OARRS access? 22 A Yes. 23 Q What was your reason for the purpose of 24 requesting OARRS access? 25 A Um, Dr. Gilson had asked me to be the</p>	<p>Page 162</p> <p>1 Q And then of the 102, actually backing up 2 just a minute, that 64 percent, that's a figure that 3 I see in a lot of the articles and press releases, 4 data briefs, that type of information, medical 5 examiner office releases. Do you know if this 6 64 percent figure comes from this data? 7 A Um, yes, I would assume that's where the 8 information came from. 9 Q Okay. And same thing for the next one, 10 which is of the 102 cases that had an OARRS file, 11 75 percent had prescriptions for opiates. 12 Do you see that? 13 A Yes. 14 Q So, again, just trying to do the math 15 here, I believe that means that 26 percent of the 16 heroin overdose deaths had no prescription for 17 opiates in 2012? 18 A 26 percent of the people who had an OARRS 19 report on file, did not have an opiate on their 20 OARRS report. 21 Q Got it. Okay. And, again, 74 percent 22 figure, if we see that in the press releases and 23 papers and that sort of thing in regards to 2012, 24 this is the data on which that number is based? 25 A Yes.</p>
<p>1 person to review those OARRS reports and to request 2 them from the OARRS database. So you would have to 3 request them and they would grant access and then I 4 would be able to view them. 5 Q And he asked you to get OARRS access 6 specifically so that you could take a look at the 7 OARRS files for the heroin overdose cases that your 8 office was seeing? 9 A Yes. 10 Q And so do I understand you that you may 11 have pulled these 2012 stats, but you're not 12 positive? 13 A I may have, but I don't remember. 14 Q So it says that in the 2012 cases, 102 out 15 of 160 cases, I assume that's heroin overdose cases? 16 A Yes. 17 Q Had an OARRS file and it says 64 percent; 18 is that right? 19 A Yes. 20 Q So I'll admit terrible at math, you may 21 have to correct me here, but if I'm doing my math 22 correctly, I believe that means that 36 percent of 23 the heroin overdose cases from 2012 had no OARRS 24 files? 25 A Yes.</p>	<p>Page 163</p> <p>Page 165</p> <p>1 Q So if there were 160 cases overall, and 75 2 had prescriptions for opiates, I've got a calculator 3 in front of me, I'm doing the math. It looks like 4 that's just slightly lower than 50 percent. 5 46.875 percent is what I'm getting for individuals, 6 for the total number of overdose cases where there 7 was no prescription for opiates, is that accurate? 8 A Um, it is not exactly accurate because, 9 um, the doctors and the pharmacists did not have to 10 generate an OARRS. I don't know what they would 11 call it, but if they were prescribing someone an 12 opiate, they don't have to report that they are 13 prescribing it. 14 So this is from the doctors who 15 self-reported that they did prescribe people. So 16 people may have had prescriptions for opioids, but 17 there just was not an OARRS report for that 18 individual. 19 Q Do doctors make OARRS reports or do 20 pharmacists make OARRS reports? 21 A From what I recall -- 22 Q Or both? 23 A -- both were able to report into that 24 system. 25 Q So what you are telling me is that in 2012</p>

<p style="text-align: right;">Page 166</p> <p>1 it was not mandatory to make those reports?</p> <p>2 A No.</p> <p>3 Q So there may be instances where someone</p> <p>4 had a prescription, but it is not reflected in these</p> <p>5 statistics?</p> <p>6 A Yes.</p> <p>7 Q But based on the best information you had</p> <p>8 in 2012, it looks like roughly in only about</p> <p>9 50 percent of your overdose cases had a prescription</p> <p>10 for opiates; is that accurate?</p> <p>11 A Yes, based on the information that we had</p> <p>12 approximately that percentage, of known</p> <p>13 prescriptions.</p> <p>14 Q Sorry, I didn't mean to interrupt you.</p> <p>15 For 75 out of 160 are the actual numbers. I will</p> <p>16 represent to you that equates to about 46 percent.</p> <p>17 A Okay. So 46 percent of the heroin</p> <p>18 overdose case individuals from that year had known</p> <p>19 prescriptions for opioids.</p> <p>20 Q That 160 figure, do you know if that's the</p> <p>21 total number of overdose deaths?</p> <p>22 A That would be the total, um, heroin</p> <p>23 overdose deaths.</p> <p>24 Q Okay.</p> <p>25 A Can I correct something I said before?</p>	<p style="text-align: right;">Page 168</p> <p>1 A Um, I recall that that might have come up</p> <p>2 a couple times. There might have been something in</p> <p>3 the history about some sort of an injury and then it</p> <p>4 might have said was in a car accident in September</p> <p>5 and then we see that the OARRS report reflects that</p> <p>6 there was prescription opioids let's say from</p> <p>7 September. So I do recall a couple times that being</p> <p>8 mentioned.</p> <p>9 Q Did you ever do a complete survey of that</p> <p>10 type of a timing kind of analysis in terms of the</p> <p>11 timing of the prescription versus the person's case</p> <p>12 history from CCMEO?</p> <p>13 A No, we did not.</p> <p>14 Q So, in other words, you don't know for the</p> <p>15 people who had these OARRS files, whether they took</p> <p>16 a prescription drug first or whether they abused</p> <p>17 heroin first, correct?</p> <p>18 A Um, no, you can't tell that from the OARRS</p> <p>19 report.</p> <p>20 Q And your data does not take that into</p> <p>21 consideration either, does it?</p> <p>22 A Um, that was a question that was asked to</p> <p>23 family members. If they had abused prescription</p> <p>24 drugs prior to heroin, so that was something that</p> <p>25 was addressed with the family, which would have been</p>
<p style="text-align: right;">Page 167</p> <p>1 Q Sure.</p> <p>2 A You asked about people who were attending</p> <p>3 the Poison Death Review Committee meetings and, um,</p> <p>4 I didn't remember anybody else, but I keep seeing</p> <p>5 the name Camille Herby. I do remember her. She was</p> <p>6 a graduate student that was helping. She actually,</p> <p>7 I think, was the one taking the minutes for the</p> <p>8 meeting.</p> <p>9 Q Great, thank you for clarifying that.</p> <p>10 A Yeah.</p> <p>11 Q If at any time you think of something else</p> <p>12 that you need to clarify, that's fine, just let me</p> <p>13 know.</p> <p>14 Um, so when you were running the</p> <p>15 OARRS information in connection with looking at</p> <p>16 these overdose deaths, I take it that you were</p> <p>17 checking to see if one, if there was an OARRS file</p> <p>18 present, correct?</p> <p>19 A Yes.</p> <p>20 Q Two, what the prescription was that</p> <p>21 generated the OARRS file; is that right?</p> <p>22 A Yes.</p> <p>23 Q Did you ever examine the timing of the</p> <p>24 prescription at all versus the information that was</p> <p>25 in the case history on file at CCMEO?</p>	<p style="text-align: right;">Page 169</p> <p>1 documented on the checklist but not from the OARRS</p> <p>2 report.</p> <p>3 Q So for the stats that are listed here, the</p> <p>4 64 percent, for instance, that's just the number of</p> <p>5 people who had an OARRS file, right?</p> <p>6 A Yes.</p> <p>7 Q It is not the number of people who had a</p> <p>8 prescription and then took heroin, right?</p> <p>9 A No.</p> <p>10 Q So among that 64 percent, there could have</p> <p>11 been someone who abused heroin and then maybe</p> <p>12 engaged in doctor seeking behavior or doctor</p> <p>13 shopping and eventually got a prescription drug as</p> <p>14 well; is that right?</p> <p>15 MR. GALLUCCI: Objection to form.</p> <p>16 A Um, yes, there could be individuals like</p> <p>17 that.</p> <p>18 Q (Ms. Ranjan) Among the 64 percent, there</p> <p>19 could have been individuals who first used heroin</p> <p>20 and then received a prescription drug; is that</p> <p>21 right?</p> <p>22 MR. GALLUCCI: Objection to form.</p> <p>23 A Yes.</p> <p>24 Q (Ms. Ranjan) Do you know how many?</p> <p>25 A No, I do not know the number of people who</p>

<p style="text-align: right;">Page 170</p> <p>1 used heroin prior to receiving any prescribed 2 opioid.</p> <p>3 Q Among the 75 that had prescriptions for 4 opiates, do you know which opiates were included in 5 that category?</p> <p>6 A Um, I know that hydrocodone and oxycodone, 7 morphine, codeine, if somebody would of had 8 oxymorphone, that would have been included.</p> <p>9 I believe tramadol was also included.</p> <p>10 If Fentanyl would have been prescribed, that would 11 have been included.</p> <p>12 I'm thinking that methadone was 13 included.</p> <p>14 Q And methadone is oftentimes prescribed in 15 addiction treatment; is that correct?</p> <p>16 A Yes, it can be.</p> <p>17 Q And similarly these numbers would not 18 reflect someone who became addicted to an illicit 19 substance, say heroin, Fentanyl, whatever that is 20 and then received a prescription for methadone, 21 right?</p> <p>22 A Um, I'm not positive if methadone was 23 included with the other opioids, but if it was, 24 yeah, just by looking at the OARRS report, you would 25 not know what that methadone was prescribed for.</p>	<p style="text-align: right;">Page 172</p> <p>1 doctor shopping.</p> <p>2 Q Do you remember what that definition was?</p> <p>3 A I don't because I believe there was maybe 4 a length of time that was also part of that. I 5 don't remember specifically what I was looking for.</p> <p>6 Q Did the committee ever discuss any 7 attempts to reach out to doctors to influence 8 prescribing habits?</p> <p>9 A Um, I know that Rose, Rose Allen, the 10 woman that was part of the pharmacy board, she would 11 talk about that frequently that they were not 12 prescribing the opioids correctly based off of what 13 she was seeing on these OARRS report. I don't know 14 if anybody actually reached out to the doctors.</p> <p>15 Yeah, I'm not sure what efforts were made to talk to 16 them about prescribing practices.</p> <p>17 Q When you did the effort to identify the 18 doctor shoppers, did you ever make any kind of 19 effort to identify doctors who appear to be 20 prescribing in a way that didn't meet accepted 21 standards?</p> <p>22 A Um, I did not. I don't know if anybody 23 took the information from those meetings and proceed 24 anything with them, I'm not sure.</p> <p>25 Q That's not something that you remember</p>
<p style="text-align: right;">Page 171</p> <p>1 Q And you also wouldn't know how many of the 2 75 people who are listed here had the prescription 3 for methadone as a result of treatment for illicit 4 drug abuse; is that right?</p> <p>5 MR. GALLUCCI: Objection to form.</p> <p>6 A You wouldn't know that from looking at the 7 OARRS report.</p> <p>8 Q (Ms. Ranjan) And you don't know how many 9 of the five that are listed here fall into that 10 category?</p> <p>11 A No, I do not.</p> <p>12 Q One of the reasons why you were interested 13 in looking at the OARRS reports was to determine if 14 there were individuals included in the heroin 15 overdose figures who were engaged in doctor 16 shopping; is that right?</p> <p>17 A We did look for people who were doctor 18 shopping.</p> <p>19 Q You used a standard definition of doctor 20 shopping, the county's of doctor shopping; is that 21 right?</p> <p>22 A I received, I think Dr. Gilson must have 23 told me what to consider doctor shopping, yes. So 24 there was a certain number of doctors that after a 25 person reached that amount we would say they are</p>	<p style="text-align: right;">Page 173</p> <p>1 being discussed?</p> <p>2 A Um, no, I don't remember any specifics 3 about talking to doctors that we felt might have 4 been, that they were prescribing incorrectly.</p> <p>5 Q So, for instance, Rose Allen, when she 6 noted this issue about doctors not prescribing them 7 appropriately, do you know if anyone on the 8 committee ever made an effort to report those 9 doctors to any regulatory board?</p> <p>10 A I don't know.</p> <p>11 Q You can set that aside for now. We may 12 come back to it later.</p> <p>13 A Okay.</p> <p>14 (Deposition Exhibit Number 8 15 marked for identification.)</p> <p>16 Q (Ms. Ranjan) I'm handing you what's been 17 marked as Exhibit 8.</p> <p>18 A Thank you.</p> <p>19 Q This is a paper that was authored by you 20 and Dr. Gilson entitled the Cuyahoga County Heroin 21 Epidemic.</p> <p>22 Do you see that?</p> <p>23 A Yes.</p> <p>24 Q This was published in 2014?</p> <p>25 A Um --</p>

<p>1 Q If you look over at the right side of the 2 page towards the bottom of that, sort of the 3 paragraph that's set off. Looks like it indicates 4 the article was published in the Academy of Forensic 5 Pathology in 2014?</p> <p>6 A Yes.</p> <p>7 Q Does that seem consistent with your 8 memory?</p> <p>9 A Yes.</p> <p>10 Q Is this one of the articles that you 11 reviewed in preparation for your deposition today?</p> <p>12 A Yes, I read this article.</p> <p>13 Q Just looking at the first page, the 14 abstract says, why don't you actually read?</p> <p>15 A Cuyahoga County Ohio has recently seen a 16 dramatic rise in the number of deaths associated 17 with heroin, which are going to be related DAH. DAH 18 rose from 40 in 2007 to 161 in 2012 with heroin now 19 identified in half of all overdose deaths. One 20 third of DAH involve heroin along, the remainder in 21 combination with other drugs.</p> <p>22 Over this period, opioid pain 23 reliever, OPR deaths, appear to have plateaued. 24 Along with this rise have been shifts in overdose 25 victim demographics. These data most notable</p>	<p>Page 174</p> <p>1 A Yes.</p> <p>2 Q To 2012, when there were 161. Cocaine 3 mortality did not show a similar trend and the rise 4 in mortality associated with oxycodone, the most 5 common lethal OPR in our jurisdiction for the entire 6 study period, quantitatively less, and it refers to 7 table one.</p> <p>8 And then skipping the next sentence, 9 overall OPR mortality mirrored oxycodone. So this 10 is presented as a proxy for OPR mortality trends 11 since these trends were largely driven by oxycodone.</p> <p>12 Did I read that properly?</p> <p>13 A Yes.</p> <p>14 Q So in other words, you are presenting 15 oxycodone here as a comparison point because 16 oxycodone was the drug that you saw that was driving 17 the most deaths related to prescription opioid 18 drugs, right?</p> <p>19 A Yes.</p> <p>20 Q If you look at table one, it looks like in 21 the year 2012 there was 161 heroin deaths; is that 22 right?</p> <p>23 A Yes.</p> <p>24 Q 108 cocaine death; is that right?</p> <p>25 A Yes.</p>
<p>1 Q And 32 oxycodone deaths?</p> <p>2 A Yes.</p> <p>3 Q And then turning the page. It looks like 4 table four reflects some of those OARRS statistics 5 that either you or Dr. Gilson put together for the 6 Poison Death Review Committee; is that right?</p> <p>7 A These, I believe, are the OARRS reports, 8 yes, from 2012. So this is not what we pulled for 9 the Poison Death Review Committee because those were 10 2013 cases.</p> <p>11 But this is, but I believe they 12 looked at the 2012 cases and applied the same 13 checklist that we were using for the Poison Death 14 Review Committee in 2013.</p> <p>15 Q Okay. And we just looked at some meeting 16 minutes that is reflected the 2012 statistics, 17 right? That was Exhibit 8?</p> <p>18 A Yes. Oh, Exhibit 7. Is that the meeting 19 minutes --</p> <p>20 Q You are right, it is Exhibit 7, I 21 apologize.</p> <p>22 I'm looking at the first paragraph 23 under discussion. Are you with me there?</p> <p>24 A Yes.</p> <p>25 Q It says, ORP recently assumed a large role</p>	<p>Page 175</p> <p>Page 177</p>

<p style="text-align: right;">Page 178</p> <p>1 in mortality attributable to accidental overdose in 2 association with substance abuse. Our results in 3 Cuyahoga County indicate that while OPR deaths have 4 reason in recent years, the most dramatic rise in 5 accidental drug deaths has been due to heroin. As 6 DAH, and again, that's death attributable to heroin, 7 right?</p> <p>8 A Uh-huh.</p> <p>9 Q As DAH in Cuyahoga County have risen, our 10 data indicate that OPR deaths appear to have reached 11 a plateau. This suggests that the addicted 12 population may be transitioning to heroin, possibly 13 for cost and/or availability reasons.</p> <p>14 Little evidence has been published 15 documenting transitions from OPR to heroin, but 16 given the similar pharmacological effects of the 17 two, this shifting trend in mortality is disturbing 18 and requires further monitoring on a national level.</p> <p>19 Did I read that correctly?</p> <p>20 A Yes.</p> <p>21 Q So is it true that at this time Cuyahoga 22 County the largest driver of overdose deaths was 23 heroin?</p> <p>24 A Yes.</p> <p>25 Q And in looking at the next paragraph it</p>	<p style="text-align: right;">Page 180</p> <p>1 was a dearth of firm evidence establishing the role 2 of OPR as a gateway to heroin; is that right?</p> <p>3 A Uh-huh, yes, I believe that there was 4 evidence stating that or showing that.</p> <p>5 MR. GALLUCCI: Let's clarify. Do you 6 understand what dearth means?</p> <p>7 A I take that to mean a lot of evidence.</p> <p>8 MR. GALLUCCI: Yeah, I think that's the 9 problem here.</p> <p>10 MS. RANJAN: Okay.</p> <p>11 Q (Ms. Ranjan) Is it true at the time that 12 you authored this article in 2014, there was a lack 13 of evidence establishing the role of OPR as the 14 gateway to heroin?</p> <p>15 A Um, I did not know that. I would have 16 thought that there was evidence showing that 17 prescribed opiates were a gateway to heroin.</p> <p>18 Q If I were to tell you that dearth means 19 the absence of evidence, would that surprise you 20 then that that's what this article says?</p> <p>21 A Yes.</p> <p>22 Q Um, okay. You signed onto this article as 23 an author, right?</p> <p>24 A Yes.</p> <p>25 Q And you took care in understanding that</p>
<p style="text-align: right;">Page 179</p> <p>1 says, as noted above, there is a dearth of firm 2 evidence establishing the role of OPR as a gateway 3 to heroin. Our prescription drug monitoring program 4 data clearly establish a link between OPR use and 5 DAH, but it is unclear whether this represents 6 evidence of a transition between OPR and heroin, or 7 simply reflects an addict population that uses these 8 substances interchangeably.</p> <p>9 Did I read that correctly?</p> <p>10 A Yes.</p> <p>11 Q Was that your conclusion at the time that 12 you authored this article?</p> <p>13 A Yes.</p> <p>14 Q You agree that there's a dearth of firm 15 evidence establishing the role of OPR as a gateway 16 to heroin?</p> <p>17 A Um, based off of the OARRS reports, those 18 show that, um, that a majority of the people with 19 OARRS reports had prescription opioids on their 20 OARRS reports.</p> <p>21 Q Let me reask my question. I'm not sure 22 that that answer was responsive to my question.</p> <p>23 A Okay.</p> <p>24 Q My question was that when you authored 25 this article, you believed it to be true that there</p>	<p style="text-align: right;">Page 181</p> <p>1 the information that you were presenting was 2 accurate; is that right?</p> <p>3 A Yes, to the best of my ability I did that.</p> <p>4 Q Okay. Did Dr. Gilson write the article?</p> <p>5 A Yes, he wrote the article.</p> <p>6 Q Okay. Did you ever discuss it with him?</p> <p>7 A Um, I believe that he emailed it to 8 Camille and myself, and asked us to review it and we 9 did. And I'm sure that we discussed it at some 10 point. I don't remember any specific discussions 11 that we had on it.</p> <p>12 Q Okay. So that when you said that your 13 expectation was that there would have been evidence 14 establishing the role of OPR as a gateway to heroin, 15 was that based on the OARRS reports that you looked 16 at?</p> <p>17 A Um, that was just based on information 18 that I must have heard in our toxicology laboratory. 19 I don't know if I heard a presentation where 20 something like that was said, but that was what I 21 felt was understood that people were using 22 prescription opioids and then turning to heroin.</p> <p>23 Q So it was just things that you heard other 24 people saying, that was the basis of your 25 conclusions?</p>

<p style="text-align: right;">Page 182</p> <p>1 A Yeah.</p> <p>2 Q Did you ever review any articles or papers 3 about that conclusion?</p> <p>4 A Um, I don't remember any specific 5 articles.</p> <p>6 Q Did you ever review the CCMU case files in 7 order to verify that conclusion?</p> <p>8 A Um, no, I don't know that reviewing those 9 CCMU files would have given me that information.</p> <p>10 Q Because the point of a death investigation 11 is not to collect the decedents entire history, 12 correct? Is that why you are saying that?</p> <p>13 A Yeah, their entire history is not 14 collected. I think we attempt to collect as much of 15 the history as we can, but it is not always 16 completely collected.</p> <p>17 Q Uh-huh. But you wouldn't be able to draw 18 that conclusion from the CCMU files because they 19 don't collect each decedents entire medical each 20 history, right?</p> <p>21 A Right.</p> <p>22 Q And they don't collect each decedents 23 entire drug abuse history, right?</p> <p>24 A Right.</p> <p>25 Q If one exist at all, correct?</p>	<p style="text-align: right;">Page 184</p> <p>1 Q (Ms. Ranjan) Anything else at all?</p> <p>2 A Um, I may have formed the opinion just 3 from personal experience. I'm not sure. I know 4 that my uncle who died of a heroin overdose in the 5 '90s, he had first been addicted to painkillers. So 6 that may have been just a personal thing that I had 7 experienced, and maybe that's where that came from 8 in my mind, I'm not sure.</p> <p>9 Q Okay. Are you at all involved in helping 10 to compile the annual reports that the CCMU 11 prepares?</p> <p>12 A No.</p> <p>13 (Deposition Exhibit Number 9 14 marked for identification.)</p> <p>15 Q (Ms. Ranjan) I've just handed you what's 16 been marked as Exhibit 9. This is an email dated 17 November 15th, 2013 from Eric Levins to Hugh 18 Shannon. And if you look back at the prior thread 19 on the email, there is an email from you dated 20 November 15th, 2013.</p> <p>21 Do you see that?</p> <p>22 A Yes.</p> <p>23 Q In your email you say, back when I was 24 trying to do my heroin paper, you sent me this 25 cocaine data to show me to make a chart like that.</p>
<p style="text-align: right;">Page 183</p> <p>1 A Right.</p> <p>2 Q They wouldn't tell you when someone 3 started using the substance, for instance?</p> <p>4 A Some of them do.</p> <p>5 Q Uh-huh.</p> <p>6 A If the family has that information.</p> <p>7 Q Uh-huh.</p> <p>8 A Then you will see that in the 9 investigative report when they started using drugs.</p> <p>10 Q Uh-huh. And that's based on a 11 conversation with family members?</p> <p>12 A Yes.</p> <p>13 Q Because there's no postmortem test for 14 that, right?</p> <p>15 A No.</p> <p>16 Q There's no postmortem test for addiction, 17 right?</p> <p>18 A No.</p> <p>19 Q Okay. So other than just hearing 20 antenodal evidence from conversations around the 21 office, was there anything else that you did to 22 investigate this opinion that you had about opioids 23 leading to heroin use?</p> <p>24 MR. GALLUCCI: Object to form.</p> <p>25 A Um, anything else at work you mean?</p>	<p style="text-align: right;">Page 185</p> <p>1 I am pretty sure I remember you telling me that the 2 cocaine data came from Paula.</p> <p>3 And then it looks Eric responds or 4 Eric forwards your email potentially on to Hugh 5 Shannon?</p> <p>6 A Okay.</p> <p>7 Q But there appears to be attached to this a 8 chart. Is that the cocaine data that you were 9 referencing in your email?</p> <p>10 A Was this an attachment?</p> <p>11 Q It was.</p> <p>12 A Yes, that must be the data that I'm 13 referencing.</p> <p>14 Q Okay. Who is Paula?</p> <p>15 A Paula Wallace is the woman who does 16 statistics in our office.</p> <p>17 Q Do you know why Paula may have been 18 looking into the instances of cocaine involved 19 overdose deaths?</p> <p>20 A I do not.</p> <p>21 Q Did you ever look at that yourself?</p> <p>22 A I used the cocaine data on some of my 23 presentations because I would make a chart showing 24 how the heroin was increasing, how the cocaine was 25 not increasing, but I don't know what the context of</p>

<p style="text-align: right;">Page 186</p> <p>1 this email is.</p> <p>2 Q Okay. If you look at the numbers on the</p> <p>3 chart that's attached, it looks like they reflect</p> <p>4 the number of cocaine poisonings per year.</p> <p>5 Do you see that?</p> <p>6 A Yes.</p> <p>7 Q And what percentage of the number of total</p> <p>8 overdose cases that that number of cocaine poisoning</p> <p>9 represents?</p> <p>10 A Yes.</p> <p>11 Q And it looks like in the most recent year</p> <p>12 reported, which was 2011, there were 292 overdose</p> <p>13 cases?</p> <p>14 A Uh-huh.</p> <p>15 Q And that was, 70 of those were cocaine</p> <p>16 poisonings?</p> <p>17 A Yes.</p> <p>18 Q Which was approximately 27.97 percent of</p> <p>19 the overall, of the overdose deaths?</p> <p>20 A Yes.</p> <p>21 Q Is it fair to say that cocaine is involved</p> <p>22 in a substantial number of overdose deaths in</p> <p>23 Cuyahoga County?</p> <p>24 A Yes.</p> <p>25 Q And has that continued to be the case</p>	<p style="text-align: right;">Page 188</p> <p>1 appears to be an email from Rindi Rico to Thomas</p> <p>2 Gilson, Hugh Shannon copying Carrie Mazzola and you.</p> <p>3 Do you see that?</p> <p>4 A Yes.</p> <p>5 Q The date is April 5th, 2017 and subject</p> <p>6 cases from ELISA.</p> <p>7 Do you see that?</p> <p>8 A Yes.</p> <p>9 Q The only thing I wanted to ask you about</p> <p>10 was the abbreviations that are being used in this</p> <p>11 document. It says IN equals 29. Do you know what</p> <p>12 IN is?</p> <p>13 A Yes, IN represents the IN cases. So those</p> <p>14 are in county, those are Cuyahoga County cases.</p> <p>15 When we give our cases case numbers, um, they're</p> <p>16 organized by what type of case they are.</p> <p>17 So the Cuyahoga County cases receive</p> <p>18 IN, plus the year, and then a numerical order of</p> <p>19 when they come into the office.</p> <p>20 The OU represents outside cases, so</p> <p>21 cases from other counties and then PD would be</p> <p>22 police cases.</p> <p>23 Q Okay, great. Are there other</p> <p>24 abbreviations that are used in these periodic emails</p> <p>25 with ELISA reports that are not indicated here?</p>
<p style="text-align: right;">Page 187</p> <p>1 since 2011?</p> <p>2 A Yes.</p> <p>3 Q In fact, the number of cocaine related</p> <p>4 overdose deaths has increased in recent years,</p> <p>5 right?</p> <p>6 A Cocaine has been involved in, yeah, I</p> <p>7 believe it would be an increase in cases over the</p> <p>8 past couple years.</p> <p>9 Q Specifically from 2016 forward there has</p> <p>10 been a substantial increase in the number of cocaine</p> <p>11 overdose deaths, correct?</p> <p>12 A I don't know what the actual numbers are,</p> <p>13 but I do agree that there would be an increase.</p> <p>14 Q Okay.</p> <p>15 MS. RANJAN: Why don't we take a little</p> <p>16 break so I can get the next set of exhibits ready to</p> <p>17 go.</p> <p>18 MR. GALLUCCI: Sure.</p> <p>19 THE VIDEOGRAPHER: Off the record 2:17.</p> <p>20 (Recess)</p> <p>21 THE VIDEOGRAPHER: On the record 2:46.</p> <p>22 (Deposition Exhibit Number 10</p> <p>23 marked for identification.)</p> <p>24 Q (Ms. Ranjan) Miss Kaspar, I have just</p> <p>25 handed you what has been marked as Exhibit 10. This</p>	<p style="text-align: right;">Page 189</p> <p>1 A I don't think you would typically see</p> <p>2 other abbreviations.</p> <p>3 Q Okay. I saw several emails like this one,</p> <p>4 obviously, with different case numbers and different</p> <p>5 figures?</p> <p>6 A Yes.</p> <p>7 Q It looks to me as if there may be a weekly</p> <p>8 report that Rindi sends out; is that right?</p> <p>9 A Whoever is running the ELISA assay that</p> <p>10 week sends out this information each week.</p> <p>11 Q Okay. But someone sends out a weekly</p> <p>12 email about the results of the ELISA screens?</p> <p>13 A Yeah, this is results from the ELISA,</p> <p>14 specifically the opiate plate, the Fentanyl plate</p> <p>15 and the cocaine plate.</p> <p>16 Q How do you know it is those three plates?</p> <p>17 A Um, you can see further down in the email</p> <p>18 it says opiates, and then it says IN 678, 712, OU</p> <p>19 98, so that's representing three different cases</p> <p>20 that were positive for opiates in that run.</p> <p>21 Q Got it, okay.</p> <p>22 Is there a reason why the opiates,</p> <p>23 Fentanyls and cocaaines were reported on, the results</p> <p>24 from the ELISA screens were reported in a weekly</p> <p>25 report like this?</p>

<p style="text-align: right;">Page 190</p> <p>1 A Yes. Um, I believe that Hugh Shannon 2 requested this from us. I believe he uses the 3 information to reach out to police departments. If 4 there may be a lot of cases from a particular city, 5 this would also be used if they wanted to put out a 6 press release about the number of overdose cases 7 from a weekend or, you know, short time period, 8 something like that.</p> <p>9 Q Okay. So it is meant for general 10 awareness amongst the office of sort of the trends 11 that you are seeing; is that right?</p> <p>12 A Um, I think it is used to give them a 13 heads up on what our preliminary findings are and 14 Hugh has list of cases that he already believes to 15 be overdose cases based off of investigation, or I 16 don't know exactly what information he's reviewing 17 to come up with that.</p> <p>18 So then this would be a preliminary 19 report to him letting him know what we found in our 20 screen.</p> <p>21 Q Okay. So Hugh would be the best person to 22 find out how he uses this information?</p> <p>23 A Yes.</p> <p>24 Q Do you use this information?</p> <p>25 A I use this information just to know how</p>	<p style="text-align: right;">Page 192</p> <p>1 recordkeeping of your look into the OARRS database 2 for 2013 that we discussed earlier?</p> <p>3 A It must be.</p> <p>4 Q Did you ever keep the information in any 5 format other than this?</p> <p>6 A Um --</p> <p>7 Q In other words, if someone asked you for, 8 you know, hey Claire, where is that. Where is that 9 OARRS data you have been keeping for 2013, is this 10 what you would give them?</p> <p>11 A I -- I guess so. I must have put this 12 together to summarize all the information from all 13 the months.</p> <p>14 Q Okay. If you look at the first page of 15 the spreadsheet where it says drug classes.</p> <p>16 A Yes.</p> <p>17 Q And then underneath of that the first 18 category is opioids?</p> <p>19 A Yes.</p> <p>20 Q Do you know what is encompassed in that 21 category?</p> <p>22 A So it looks like further back, let's see 23 one, two, three, four pages in, I have opioid types.</p> <p>24 So I am going to guess that those are 25 what fell under the opioid category of drug class.</p>
<p style="text-align: right;">Page 191</p> <p>1 many cases are going to be added to my opiate 2 confirmation that week.</p> <p>3 Q Okay. Fair enough you can set that aside.</p> <p>4 (Deposition Exhibit Number 11 5 marked for identification.)</p> <p>6 Q (Ms. Ranjan) I'm handing you what's been 7 marked as Exhibit 11. This is an email from, the 8 bottom thread from you. It appears to be to, must 9 have been sent to Dr. Gilson because the greeting 10 line says hi, Dr. Gilson.</p> <p>11 Do you see that?</p> <p>12 A Yes.</p> <p>13 Q And it is from May 29th, 2014 and it 14 reads, here is the database I have been keeping on 15 all are OARRS reports. I have it filled in for all 16 of 2013. You can look at each individual month, or 17 if you look at the last tab, it will be a summary of 18 each month for the whole year.</p> <p>19 Do you see that?</p> <p>20 A Yes.</p> <p>21 Q I will represent to you that I printed the 22 attached spreadsheet from the final tab of your 23 document.</p> <p>24 A Okay.</p> <p>25 Q Does this document appear to be your</p>	<p style="text-align: right;">Page 193</p> <p>1 Q Okay. And if you look at the next page, 2 there is a column for methadone?</p> <p>3 A Yes.</p> <p>4 Q Does that refresh your recollection about 5 whether methadone was included in your opioid 6 figures?</p> <p>7 A Um, I can't tell. Was that just an extra 8 column in the same opioid types or is that its own. 9 I can't tell by looking at this. It may have been 10 under opioid types. I'm guessing it was on its own.</p> <p>11 Q Are you sure of that or are you guessing?</p> <p>12 A Oh, no, I'm not certain of anything, but 13 it does appear maybe it was under opioids. I'm 14 getting that because as I keep turning pages. So 15 the next thing says multiple scripts opioids and it 16 looks like the next category starts benzo type and 17 the methadone does appear to be part of that 18 multiple script opioids. So I would assume then 19 that methadone was part of the opioid drug class.</p> <p>20 Q Okay. You can set that aside. Did you do 21 a similar analysis for 2014?</p> <p>22 A No.</p> <p>23 Q Why not?</p> <p>24 A Um, Dr. Gilson decided that we had enough 25 data from 2013. So we didn't do any more Poison</p>

<p style="text-align: right;">Page 194</p> <p>1 Death Review Committee meetings. I did not review 2 any orders of 2014.</p> <p>3 Q So the only year for which you did a 4 comprehensive review of the OARRS reports for 5 overdose deaths was 2013?</p> <p>6 A 2013 for sure I did. I may have been the 7 person who did 2012, but I do not remember.</p> <p>8 Q Okay.</p> <p>9 (Deposition Exhibit Number 12 10 marked for identification.)</p> <p>11 Q (Ms. Ranjan) I'm handing you what has 12 been marked as Exhibit 12. This is an email from 13 you to Hugh Shannon dated October 14th, 2015. And 14 the subject line looks to be a case number; is that 15 right?</p> <p>16 A Yes.</p> <p>17 Q This is one of your in county cases based 18 on the IN indication?</p> <p>19 A Yes.</p> <p>20 Q Can you read the email for me?</p> <p>21 A Hi, Hugh, just thought you would be 22 interested in this case. There is a huge amount of 23 oxymorphone in the femoral, and from the 24 investigation report it looks like the guy filled 25 multiple oxymorphone prescriptions all on the same</p>	<p style="text-align: right;">Page 196</p> <p>1 this email.</p> <p>2 Q Okay. You can set that aside.</p> <p>3 During your time at CCMEO, are you 4 aware of any doctors or pharmacists ever being 5 reported to one of the state boards?</p> <p>6 A I never reported anyone. Um, I do not 7 know if other people reported somebody.</p> <p>8 Q But that's not something that maybe 9 Dr. Gilson or Hugh Shannon ever discussed with you?</p> <p>10 A No, they didn't.</p> <p>11 (Deposition Exhibit Number 13 12 marked for identification.)</p> <p>13 Q (Ms. Ranjan) I'm handing you what has 14 been marked as Exhibit 13. This is an email thread 15 from 2014 that includes a number of people, 16 including Hugh Shannon, Dr. Gilson, you and Joe 17 Stopak; is that right?</p> <p>18 A Yes.</p> <p>19 Q Okay. So let's walk through it. If you 20 flip to the second page, looks like this is the 21 first at the bottom, that's the earliest email in 22 the chain?</p> <p>23 A Okay.</p> <p>24 Q And in it it looks like it is Hugh saying 25 to you, can we pull reports for any prescriptions we</p>
<p style="text-align: right;">Page 195</p> <p>1 day. Seems like this was improper prescribing by 2 the doctor and also improper filling by the 3 pharmacist. I never see anyone taking oxymorphone 4 anymore. I guess I was thinking most doctors 5 weren't even prescribing it any more.</p> <p>6 Q Did Hugh ever respond to you?</p> <p>7 A I do not remember.</p> <p>8 Q Did you ever take any effort to report the 9 doctor who engaged in what you characterized as 10 improper prescribing?</p> <p>11 A No, I did not.</p> <p>12 Q Did you ever speak to the Ohio Medical 13 Board about him?</p> <p>14 A No, I did not.</p> <p>15 Q Did you ever take any effort to report the 16 pharmacist who engaged in what you describe as 17 improper filling?</p> <p>18 A I did not.</p> <p>19 Q Are you aware of Hugh or anyone else in 20 your office having done that?</p> <p>21 A I am not.</p> <p>22 Q And by done that, I'm sorry, I mean 23 reporting either the doctor or the pharmacist to one 24 of the state boards?</p> <p>25 A No, I do not know if anything went beyond</p>	<p style="text-align: right;">Page 197</p> <p>1 got at scene for those listed in attached Excel 2 under Dr. Shop worksheet.</p> <p>3 Claire, do you have the OARRS 4 print-out reports for the 2013 cases or do you just 5 take notes from the system?</p> <p>6 Did I read that correctly?</p> <p>7 A Um, yes, for the Claire part. Let me read 8 that first part because I was trying to find out 9 where you were.</p> <p>10 Q Oh, sure, yeah. Take your time and read 11 through the document.</p> <p>12 A Okay. So I do not know what that first 13 sentence is referring to, but yes, then clearly 14 there is a question to me.</p> <p>15 Q Looks like Hugh Shannon is asking you for 16 the OARRS information for the 2013 cases.</p> <p>17 Do you see that?</p> <p>18 A Yes. It looks like he's asking me if I 19 have those reports printed or if I just take notes 20 when I'm in the system.</p> <p>21 Q Fair enough. Okay. If you go back to the 22 first page of the document, looks like you are 23 responding to him and you say, hi Hugh, I have the 24 printed OARRS reports for all the heroin tests we 25 have gone over in our meeting so far. Let me know</p>

<p style="text-align: right;">Page 198</p> <p>1 what, if anything, you need me to do with them. 2 Thanks Claire. 3 Did I read that accurately? 4 A Yes. 5 Q And then Hugh responds and says, we'll 6 wait for Dr. Gilson, right? 7 A Yes. 8 Q And then Dr. Gilson responds and says, I 9 don't think we can share them, at least based on my 10 recollection of discussions I had when we got our 11 OARRS access. I am not sure how to proceed as I do 12 not feel we can file complaints on prescribers who 13 may be complying with the law, but still 14 contributing to doctor shopping. There is no 15 requirement for checking OARRS simply because one is 16 prescribing an opiate/opioid. It would be easier if 17 we could generate a list of heroin overdose victims 18 who meet the doctor shopping criteria and let the 19 investigators take it from there. Would that be 20 sufficient for the OSMB? Tom Gilson. 21 Did I did read that properly? 22 A Yes. 23 Q Looks like Hugh Shannon responds, it will 24 have to be, right? 25 A Yes.</p>	<p style="text-align: right;">Page 200</p> <p>1 (Deposition Exhibit Number 14 2 marked for identification.) 3 Q (Ms. Ranjan) Okay. I'm showing you what 4 has been marked as Exhibit 14. This is a 5 Preliminary Drug Deaths Report from the Cuyahoga 6 County Medical Examiner's Office dated 2017. 7 Do you see that? 8 A Yes. 9 Q And for the record, this is not a document 10 that I pulled from production, this is one from that 11 I pulled from the CCMU website. 12 I also want to know, there are a 13 number of pages towards the end that have black 14 boxes. That's not information that we have 15 redacted, that is how the document appears on the 16 CCMU website just so it is clear. At least that's 17 how it appeared when I printed this document. 18 I just wanted to discuss one slide in 19 this document which is three pages in. It is 20 labeled Cuyahoga County Overdose Deaths 2016, sorry 21 2006 to 2017, most common drugs. 22 Do you see that page? It is like 23 three pages in like this. Right there. 24 Have you reviewed charts that have 25 looked like this in the past?</p>
<p style="text-align: right;">Page 199</p> <p>1 Q So it looks like from this email that you 2 were discussing whether or not you would report to 3 the state medical board the doctors who are 4 identified as being involved in doctor shopping 5 based on the 2013 OARRS data that you reviewed; is 6 that right? 7 A Yes. 8 Q And it looks like you were included that 9 you would not report those doctors to the state 10 medical board; is that right? 11 A That is what Dr. Gilson said and then Hugh 12 agreed. 13 Q Do you know if ultimately you ever did 14 decide to report those doctors to the state medical 15 board? 16 A I do not know that. 17 Q Do you know if the names of the overdose 18 victims who met the doctor shopping criteria were 19 ever shared with the OSMB? 20 A I do not know that. 21 Q Do you recall anything about this 22 situation other than just the email discussion 23 that's included in this exhibit? 24 A No, I don't. 25 Q You can set that aside.</p>	<p style="text-align: right;">Page 201</p> <p>1 A Um, charts that I made to put on my 2 presentations I have. Not the ones put out by our 3 office to go up on the website. 4 Q In other words, you have seen charts from 5 the office that summarize overdose death information 6 before, but you've never reviewed this particular 7 document, which is some of the annual report type of 8 information that the CCMU publishes? 9 A Correct. 10 Q Okay. So this chart appears to list the 11 most common drugs that are found overdose deaths in 12 Cuyahoga County; is that accurate? 13 A Sorry, say that again? 14 Q This chart appears to reflect the most 15 common drugs that are found in overdose deaths in 16 Cuyahoga County? 17 A I believe so. 18 Q For the period 2006 to 2017? 19 A Yes. 20 Q And if you look at the year 2015 on the 21 orange line there, which includes total dug overdose 22 deaths, it looks like there is a pretty dramatic 23 increase from 2015 from 2016. 24 Do you see that? 25 A I do.</p>

<p style="text-align: right;">Page 202</p> <p>1 Q It goes from 370 overdose deaths to, 2 sorry, to 666?</p> <p>3 A Yes.</p> <p>4 Q Is that consistent with your experience 5 working at CCMEO?</p> <p>6 A Yes.</p> <p>7 Q You did see a very large increase in the 8 number of total of drug overdose deaths between 2015 9 and 2016?</p> <p>10 A Yes.</p> <p>11 Q If you look at the red line, it looks like 12 it is another line that appears to have a very large 13 spike around the 2015 to 2016 time frame.</p> <p>14 Do you see that?</p> <p>15 A Yes.</p> <p>16 Q And that line represents Fentanyl 17 according to the chart?</p> <p>18 A Yes.</p> <p>19 Q Again, is that consistent with your person 20 in the toxicology lab that around the 2015 to 2016 21 time frame, you saw a dramatic spike in Fentanyl 22 deaths?</p> <p>23 A Yes.</p> <p>24 Q In fact, according to this chart it went 25 from 92 Fentanyl related overdose death to 399 in</p>	<p style="text-align: right;">Page 204</p> <p>1 Do you see that?</p> <p>2 A Yes.</p> <p>3 Q And then moving down to the dark redline 4 there, all opioids not including Fentanyl.</p> <p>5 Do you see that?</p> <p>6 A I do.</p> <p>7 Q And the reason why you wouldn't include 8 Fentanyl in the all opioids category here is because 9 the vast majority of the Fentanyl cases are illicit 10 Fentanyl, right?</p> <p>11 A That is true what you're saying, yes, the 12 vast majority are illicit Fentanyl.</p> <p>13 I'm guessing that they, I'm guessing 14 that they split up all opioids, not including 15 Fentanyl so that they can highlight how many 16 specific Fentanyl cases and how many specific heroin 17 cases.</p> <p>18 I don't know that that's the best way 19 to describe that line because it is not including 20 heroin either, which is also an opioid and I don't 21 know what opioids that's including.</p> <p>22 Q Okay, that's fair.</p> <p>23 And then looking at the purple line 24 at the bottom.</p> <p>25 A Yes.</p>
<p style="text-align: right;">Page 203</p> <p>1 2016?</p> <p>2 A Yes.</p> <p>3 Q And then the next line that appears to be 4 sort of the highest on the graph here is the heroin 5 line, the blue line.</p> <p>6 Do you see that one?</p> <p>7 A Yes.</p> <p>8 Q Again, I think that this appears to be 9 consistent with the information that you observed 10 around 2010 when you came to the office and started 11 to observe a rise in heroin related overdose deaths?</p> <p>12 A Yes.</p> <p>13 Q And it looks like at that time the heroin 14 related overdose deaths in 2011, for instance, were 15 107, right?</p> <p>16 A Yes.</p> <p>17 Q And in 2012 they increased to 161?</p> <p>18 A Yes.</p> <p>19 Q And then if we go up to again that 2015 to 20 2016 time frame, looks like they increase, again, 21 there's a pretty dramatic spike there.</p> <p>22 Do you see that?</p> <p>23 A Yes.</p> <p>24 Q And they go from 2015, 184 heroin deaths 25 to 2016, 320.</p>	<p style="text-align: right;">Page 205</p> <p>1 Q So the vast majority of the chart it looks 2 like it is at zero and then all of the sudden, 3 again, between 2015 and 2016, there's a dramatic 4 spike.</p> <p>5 Do you see that?</p> <p>6 A Yes.</p> <p>7 Q And this purple line represents 8 carfentanil?</p> <p>9 A Yes.</p> <p>10 Q And from 2015 to 2016 it goes from zero 11 overdose deaths to 56 carfentanil deaths?</p> <p>12 A Yes.</p> <p>13 Q From 2016 to 2017 looks like there were, 14 jumped again from 56 carfentanil overdose deaths to 15 191 carfentanil overdose deaths?</p> <p>16 A Yes.</p> <p>17 Q So based on this chart, is it fair to say 18 the vast majority of the overdose deaths you have 19 been seeing in recent years have been attributable 20 to heroin, cocaine, carfentanil and Fentanyl?</p> <p>21 A Can you reask that question?</p> <p>22 Q Sure. Um, we can broaden the question.</p> <p>23 Based on your experience at CCMEO in recent years 24 say from 2015 going forward, the drugs that have 25 been primarily responsible for the vast majority of</p>

<p style="text-align: right;">Page 206</p> <p>1 overdose deaths have been heroin, cocaine, 2 carfentanil and Fentanyl, is that accurate? 3 A That is accurate. I just want to point 4 out that a number of these cases have multiple of 5 those drugs involved. 6 Q Uh-huh. 7 A So when you are seeing these numbers, it 8 is not that 492 were only Fentanyl, you know what 9 I'm saying? They can have all of those involved. 10 Q I think I understand what you are saying. 11 So if we take 2016 as an example to illustrate what 12 you are saying, if we just added up, for instance, 13 the numbers of Fentanyl, heroin, cocaine, and 14 carfentanil, we would get a number that is much 15 higher than 666 right? 16 A Yes. 17 Q There are only 666 overdose deaths in 18 2016, right? 19 A Yes. 20 Q So in reaching that 666 figure, there were 21 people who overdose on multiple substances, right? 22 A Yes. 23 Q Is that what you were trying to explain? 24 A Multiple substances were included in the 25 cause of death for these cases.</p>	<p style="text-align: right;">Page 208</p> <p>1 ELISA. And in those instances we were wondering if 2 there was a Fentanyl analogue in the drug that may 3 have been on scene that did not react with our kit. 4 But we work with the company that 5 that provides our kits for ELISA and they test all 6 the new Fentanyl analogues that are out to see how 7 cross reactive it is with their plate. 8 And if we come across new Fentanyl 9 analogues in our area, we can ask them to test the 10 plates for that too. So we will get updated cross 11 activity information on the Fentanyl analogues. So 12 carfentanil has been the major issue with that. 13 Q Okay. So, in other words, in recent years you 14 you've undertaken efforts to do additional 15 screenings or to work with your vendors to, let me 16 just start that one over. 17 So I think that what you are 18 describing is a process whereby in recent years you 19 have undertaken to do additional screenings and work 20 with your vendors to insure that your tests are 21 picking up all of the Fentanyl analogues; is that 22 right? 23 A Yes. I wouldn't necessarily say we have 24 done additional screenings, we have worked with them 25 to determine whether or not our screenings will pick</p>
<p style="text-align: right;">Page 207</p> <p>1 Q Okay. 2 A For a number of the cases. 3 Q Okay. I think I asked you this, but these 4 figures that are listed here on the chart are 5 consistent with your experience in your day-to-day 6 job; is that right? 7 A Yeah, they seem consistent. 8 Q Okay. Is it true Fentanyl isn't always 9 easy to detect in your toxicology testing? 10 A I do not think that is true. 11 Q Okay. I think we talked earlier that 12 there are times when, for instance, a screen test 13 might not pick up Fentanyl analogue because for 14 whatever reason; is that right? 15 A Yes, specifically the carfentanil does not 16 get picked up from our ELISA screen. 17 Q There were times, especially in recent 18 years, where the introduction of new Fentanyl 19 analogues also made it sometimes difficult to detect 20 what was causing overdose deaths; is that right? 21 A I think with the screening that these 22 analogues sometimes gave us puzzling results 23 because, I think what you are referring to is we, if 24 the scene would look like there was an overdose and 25 we may get a negative for Fentanyl or opiates on the</p>	<p style="text-align: right;">Page 209</p> <p>1 up these Fentanyl analogues. And then in the 2 instance of the carfentanil not reacting, we bump 3 that confirmation based off of the case history, the 4 Fentanyl confirmation where we will be able to 5 detect the carfentanil. 6 Q Have the Fentanyl and Fentanyl analogue 7 cases that you have been seeing in the past few 8 years, have those required more time than the 9 average overdose case for the laboratory to process? 10 A Um, now that we have an assay validated to 11 find a very large portion of those Fentanyl 12 analogues, it is not taking more time, but to get to 13 that point where we had the assay validated and to 14 determine what Fentanyl analogues we needed to be 15 adding into that assay, that took a long time. That 16 was the procedure that I said took about a year to 17 develop, to get that up and running. 18 Q Were you involved in that effort? 19 A I helped with the validation. So I ran 20 some of the validation runs. 21 Q And I think we discussed earlier already, 22 but before you had your own assay up and running, 23 you were sending some of the Fentanyl analogue cases 24 out to a reference labs? 25 A Yes.</p>

<p>1 Q Is there a fee to do that?</p> <p>2 A Yes.</p> <p>3 (Deposition Exhibit Number 15</p> <p>4 marked for identification.)</p> <p>5 Q (Ms. Ranjan) I'm handing you a document</p> <p>6 that's been marked as Exhibit 15.</p> <p>7 It is an email chain. I want to</p> <p>8 focus on the second from the top thread in the email</p> <p>9 chain, the one that you wrote.</p> <p>10 A Okay.</p> <p>11 Q In that, let's see, first of all it is</p> <p>12 from you to Thomas Gilson, Rindi Rico, Hugh Shannon,</p> <p>13 Harold Schueler, Eric Lavins and Carrie Mazzola.</p> <p>14 Do you see that?</p> <p>15 A Yes.</p> <p>16 Q It is dated July 3rd, 2014?</p> <p>17 A Yes.</p> <p>18 Q The subject is Fentanyl cases and you say,</p> <p>19 hello all, just wanted to give you an update on IN</p> <p>20 2014-01108. Carrie and I ran, I think it is meant</p> <p>21 to say Fentanyl, right?</p> <p>22 A Oh, yes.</p> <p>23 Q Carrie and I ran the Fentanyl and opiate</p> <p>24 confirmations on that case today. The Fentanyl</p> <p>25 result will be report as neg, N-E-G. I think that</p>	Page 210	<p>1 calibrator.</p> <p>2 But during validation, we also</p> <p>3 determine what we call an LOD, and that's the level</p> <p>4 of detection. So it is lower than what we can</p> <p>5 quantitatively report. It is what we can see. It is</p> <p>6 the level that we are confident that we can see, but</p> <p>7 not necessarily give an accurate quantitation for.</p> <p>8 So what this is saying is that when</p> <p>9 Carrie ran the Fentanyl confirmation, I would have</p> <p>10 to see the data to be sure, but sounds like what I'm</p> <p>11 describing is that there's a peak present at the</p> <p>12 retention time of Fentanyl, but the quantitation</p> <p>13 came out to lower than we are able to report as</p> <p>14 positive. So it will go out as a negative.</p> <p>15 Q So in this instance the toxicology report</p> <p>16 would read negative for Fentanyl?</p> <p>17 A I believe the final report reads not</p> <p>18 detected, but the result that we type into our</p> <p>19 result fills in negative and on the final report it</p> <p>20 says none detected.</p> <p>21 Q Okay. Was that something that happened</p> <p>22 with any amount of frequency in 2014?</p> <p>23 A Um, that happens with frequency now also.</p> <p>24 It happens all the time every year.</p> <p>25 Q Specifically Fentanyl or other substances</p>	Page 212
<p>1 means negative; is that right?</p> <p>2 A Yes.</p> <p>3 Q There was a trace amount there, but lower</p> <p>4 than what we can report.</p> <p>5 Did I read that accurately?</p> <p>6 A Yes.</p> <p>7 Q And then the top thread in the chain,</p> <p>8 Dr. Gilson forwards onto Hugh Shannon and says, what</p> <p>9 this means is that we have heroin and likely a trace</p> <p>10 of Fentanyl, but cannot verify because I think he</p> <p>11 meant to say it is below what we report.</p> <p>12 Do you see that?</p> <p>13 A Yes.</p> <p>14 Q Can you explain to me what this is talking</p> <p>15 about in terms of reportable levels of Fentanyl?</p> <p>16 A So when we run our validation studies, we</p> <p>17 determine what level that we can, um, get down to</p> <p>18 that we can see.</p> <p>19 So we run a set of calibrators with</p> <p>20 each run that we do. Our office policy is to report</p> <p>21 a concentration if it falls between our lowest</p> <p>22 calibrator and our highest calibrator.</p> <p>23 There is a number of other</p> <p>24 requirements that must be met, but quantitation wise</p> <p>25 you need them to fall between lowest and highest</p>	Page 211	<p>1 as well?</p> <p>2 A Other substances as well.</p> <p>3 Q Is it usually Fentanyl?</p> <p>4 A No, I wouldn't say that. It happens</p> <p>5 equally with all of the analogues that we are</p> <p>6 looking for.</p> <p>7 Q Okay.</p> <p>8 (Deposition Exhibit Number 16</p> <p>9 marked for identification.)</p> <p>10 Q (Ms. Ranjan) I'm handing you what's been</p> <p>11 marked as Exhibit 16. This is an email from Eric</p> <p>12 Lavins to you and others dated August 31st, 2016.</p> <p>13 Do you see that.</p> <p>14 A Yes.</p> <p>15 Q And you don't need to read it out loud,</p> <p>16 but I will just give you a chance to review the</p> <p>17 contents of the email and then I want to ask you a</p> <p>18 couple of questions about it. To the extent that</p> <p>19 you care, the particular I want to focus on is the</p> <p>20 very first thread the top of the document?</p> <p>21 A Okay. Let me read it and see if I can get</p> <p>22 context without reading the whole thing.</p> <p>23 Q Yeah, absolutely, take your time.</p> <p>24 A Okay. I think I understand what's going</p> <p>25 on there. If I need to go back further, I will let</p>	Page 213

<p style="text-align: right;">Page 214</p> <p>1 you know.</p> <p>2 Q Sure. About midway down the page, Eric</p> <p>3 references our CCMEO GC/MS Fentanyl and the analogue</p> <p>4 screen currently looks for, and he list substances?</p> <p>5 A Yes.</p> <p>6 Q And two of those are acetyl-fentanyl and</p> <p>7 carfentanil. And it says, one of them says,</p> <p>8 actually, they both say, qualitatively only recently</p> <p>9 added.</p> <p>10 Do you see that?</p> <p>11 A Yes.</p> <p>12 Q And then he goes on, we will also be</p> <p>13 determining a detection limit for these new drugs</p> <p>14 and optimize the instrument for increased</p> <p>15 sensitivity.</p> <p>16 Do you are see that?</p> <p>17 A Yes.</p> <p>18 Q And it says, to be added thanks to drug</p> <p>19 chemistry. Is drug chemistry a department within</p> <p>20 the office?</p> <p>21 A Yes.</p> <p>22 Q So it sounds like they suggested adding</p> <p>23 three more substances, is that how you interpret</p> <p>24 this email?</p> <p>25 A I don't believe that -- well, they may</p>	<p style="text-align: right;">Page 216</p> <p>1 August 22nd that are heroin, Fentanyl or appear to</p> <p>2 be IV drug abuse related or having a 70 GC/MS are</p> <p>3 headed to testing.</p> <p>4 So that number 70 code is the code</p> <p>5 that is added when we need to add Fentanyl</p> <p>6 confirmation. So that was saying for the next three</p> <p>7 weeks, based off of case history, we are going to</p> <p>8 add the Fentanyl confirmation to every case that</p> <p>9 looks like it is IV drug abuse, regardless of what</p> <p>10 the ELISA came back. That's what that meant.</p> <p>11 Q Okay. So starting on August 27th, 22nd,</p> <p>12 if you had, let me start that question over.</p> <p>13 Starting on August 22nd, 2016, if you</p> <p>14 had a case that was, that appeared to be a heroin or</p> <p>15 Fentanyl or IV drug abuse case, you were going to</p> <p>16 add on an extra test to try to detect carfentanil</p> <p>17 and Fentanyl analogues; is that right?</p> <p>18 A Yeah. That was to see how frequently we</p> <p>19 were seeing carfentanil with the next step and then</p> <p>20 what he is saying that there are ELISA kits for</p> <p>21 carfentanil. So we were just trying to come up with</p> <p>22 a game plan of, are we seeing this enough to have to</p> <p>23 add on another ELISA screen. So it was kind of an</p> <p>24 email where he is trying to plan what to do next.</p> <p>25 Q Okay. And this again is another</p>
<p style="text-align: right;">Page 215</p> <p>1 have suggested that, but I was reading that as they</p> <p>2 actually have those substances. So we were going to</p> <p>3 get those substances from them so that we could run</p> <p>4 them in our assay and add them to our assay.</p> <p>5 Q Okay. So does this reflect the process</p> <p>6 that you were going through around this time frame</p> <p>7 in 2016 of trying to insure that you were screening</p> <p>8 for all the Fentanyl analogues?</p> <p>9 A Yes.</p> <p>10 Q And then closer towards the top of the</p> <p>11 email. I'm in the second paragraph. It says, for a</p> <p>12 three week period to gauge the incidence of</p> <p>13 carfentanil and other Fentanyl analogues, those</p> <p>14 additional cases will be run or Carrie's Fentanyl</p> <p>15 GC/MS assay.</p> <p>16 Do you see that?</p> <p>17 A Yes.</p> <p>18 Q Was this some sort of a trial period you</p> <p>19 were using a new essay, is that what was going on</p> <p>20 here?</p> <p>21 A No, this was her existing Fentanyl assay.</p> <p>22 This is when it was on GC/MS before we moved it to</p> <p>23 the LC/MS triple quad.</p> <p>24 So what he is saying is that in the</p> <p>25 previous sentence, he says any cases starting from</p>	<p style="text-align: right;">Page 217</p> <p>1 improvement in your testing in order to try to</p> <p>2 detect more Fentanyl analogues?</p> <p>3 A Yes.</p> <p>4 Q And did those efforts to improve your</p> <p>5 testing to try to detect more Fentanyl analogues</p> <p>6 continue to 2017 and 2018?</p> <p>7 A Definitely into 2017. I'm not certain</p> <p>8 about 2018. 2018 is when we started using the most</p> <p>9 current Fentanyl assay that we run.</p> <p>10 (Deposition Exhibit Number 17</p> <p>11 marked for identification.)</p> <p>12 Q (Ms. Ranjan) I'm showing you what is</p> <p>13 marked as Exhibit 17.</p> <p>14 This is an email from Eric Lavins to</p> <p>15 you and others dated January 26, 2018. Subject line</p> <p>16 reads forward, Randox.</p> <p>17 Do you see that?</p> <p>18 A Yes.</p> <p>19 Q He says, hello, as everyone knows we have</p> <p>20 limited ability to screen by ELISA in the blood for</p> <p>21 many of the fentalogues, namely carfentanil. Trying</p> <p>22 to remedy that issue, Szab.</p> <p>23 A He abbreviated Szabolc's name.</p> <p>24 Q Okay. And I spoke to Matt from Randox at</p> <p>25 SOFT about the Randox ELISA kits for fentalogues in</p>

<p style="text-align: right;">Page 218</p> <p>1 the blood. I have not looked at the specs cross 2 reactivities yet, but this may help us screen for 3 the CF.</p> <p>4 Does he mean carfentanil?</p> <p>5 A Yes.</p> <p>6 Q In blood specimens. There are very 7 options for ELISA screening for many of these NPS 8 and fentanyl like drugs. And then he goes on, 9 short of a TOF/HMRA. What is TOF/HMRA?</p> <p>10 A That is a very expensive instrument. Time 11 of flight is what TOF stands for and it is high mass 12 resolution analyzer. He's saying short of having to 13 purchase one of those.</p> <p>14 Q Okay. So there are very few options for 15 ELISA screen for many of these NPS fentanyl type 16 drugs short of a TOF or HMRA, or a brute force 17 approach and run every case for fentanyls on 18 LC-MS/MS, like we do with the number 32 bases.</p> <p>19 Can you explain that portion of the 20 email?</p> <p>21 A Um, so he is saying that our ELISA does 22 not catch the carfentanil.</p> <p>23 I don't believe there's other 24 Fentanyl analogues, there may be a couple, but for 25 the most part we catch the other Fentanyl analogs</p>	<p style="text-align: right;">Page 220</p> <p>1 So if they ordered a comprehensive 2 testing panel, he's saying that he felt we would 3 need to add the 74 on as just a standard you're 4 going to get that test if you order a comprehensive.</p> <p>5 Q And he's describing this as a brute force 6 approach. I assume he means this would be time 7 consuming?</p> <p>8 A Yes, it would be very time consuming.</p> <p>9 Q And be expensive?</p> <p>10 A Yes.</p> <p>11 Q Is it fair to say that the office spends a 12 reasonable or significant amount of time in trying 13 to detect these Fentanyl analogues?</p> <p>14 A Yes, I would say that's reasonable.</p> <p>15 Q And, again, Fentanyl analogues are illicit 16 drugs, right?</p> <p>17 A Yes. Well, not fully. Carfentanil is not 18 necessarily illicit because it is used as an animal 19 tranquilizer, but for humans, yeah, you cannot be 20 prescribed that.</p> <p>21 Q Carfentanil has no approved use in humans?</p> <p>22 A Right.</p> <p>23 Q Do you have any idea about in terms of 24 hours, how much resources the office dedicated to 25 trying to insure that it was catching all of the</p>
<p style="text-align: right;">Page 219</p> <p>1 other than the carfentanil. I'm not sure which of 2 the other drugs he's referring to.</p> <p>3 So he's saying that we may not, well, 4 we are not catching certain ones by ELISA. The 5 Randox kits are not the same company that we 6 purchase our current ELISA kits from, so to run one 7 of their kits we were going to have to do a 8 completely different ELISA run with different 9 outlets, which was going to add a lot of time 10 because the ELISA is run on every case that they 11 order toxicology testing on.</p> <p>12 So we were going to have to do double 13 the allocating if we added on a plate from a 14 different company.</p> <p>15 So he's saying here if we don't buy 16 that very expensive mass spec, then we might need to 17 run the opiate, I'm sorry, the Fentanyl assay. And 18 when it moved on to the LC, that LC/MS is a LC 19 triple quad. So it is a new instrument that we put 20 the Fentanyls on so we can detect very low amounts 21 of them.</p> <p>22 So he's saying pretty much a 74, 23 which would be the test code for the Fentanyl 24 confirmation, would have to be added to all of these 25 cases similar to the 32, which is a blood base.</p>	<p style="text-align: right;">Page 221</p> <p>1 Fentanyl analogues in carfentanil?</p> <p>2 A I do not know how many hours were spent 3 doing that.</p> <p>4 Q Do you have any kind of estimate?</p> <p>5 A No, I really don't.</p> <p>6 Q Would you characterize it as a significant 7 effort?</p> <p>8 A I would.</p> <p>9 (Deposition Exhibit Number 18 10 marked for identification.)</p> <p>11 Q (Ms. Ranjan) Let me show you what's been 12 marked as Exhibit 18. This appears to be a draft 13 because it looks like the hyperlinks are not 14 working, but to be honest, I'm not entirely positive 15 if that's just a result of the document collection 16 and production process. So it is unclear to me if 17 whether this is in draft form or final form, but in 18 any event it is a paper that appears to be authored 19 by Dr. Gilson with the title Medical Examiner's Role 20 in Addressing the Opioid Crisis.</p> <p>21 Have you ever seen this document?</p> <p>22 A I have not.</p> <p>23 Q If you could turn to, towards the back. 24 If you look at the bottom right-hand corner. It is 25 page with the bates number ending in 001671016.</p>

<p>1 I'm looking at section three current 2 and future challenges Fentanyl and Fentanyl 3 analogues?</p> <p>4 A Yes.</p> <p>5 Q I'm going to read a couple of these 6 paragraphs aloud and then we can fill it with some 7 questions.</p> <p>8 It says, since its emergence in 2013 9 to 2014, Fentanyl has become the major driver of 10 drug abuse mortality in our jurisdiction and several 11 other locations in the country.</p> <p>12 Would you agree with that statement?</p> <p>13 A Yes.</p> <p>14 MR. GALLUCCI: Objection, beyond the 15 scope.</p> <p>16 Q (Ms. Ranjan) Fentanyl is a synthetic, you 17 know going back just a moment.</p> <p>18 Is that consistent, is that statement 19 consistent with your experience in your day-to-day 20 job as a toxicologist at CCMEO? Perhaps what your 21 counsel is objecting to is the several other 22 locations around the country. So let me just 23 shorten it. Since its emergence in 2013 to 2014, 24 Fentanyl has become the major driver of drug abuse 25 mortality in our jurisdiction.</p>	<p>Page 222</p> <p>1 burdens on laboratories, especially in the public 2 sector, to allocate adequate funding to keep up with 3 the evolving crisis.</p> <p>4 It is also often the case that these 5 new drugs have not been previously encountered in 6 routine drug and toxicology analysis.</p> <p>7 I will stop there.</p> <p>8 Based on Dr. Gilson's description 9 here, do you think that this description is 10 consistent with your experience in the toxicology 11 lab at CCMEO?</p> <p>12 A Yes.</p> <p>13 Q Okay. So it continues. This presents 14 challenges both in testing, as well as in the 15 interpretation of the test results. From a testing 16 standpoint, the identification of a new compound may 17 again require increasingly sophisticated 18 instrumentation, but in addition, there will be a 19 need for reference material to permit testing for 20 drug concentrations, et cetera. Frequently these 21 standards are not readily available from the 22 commercial suppliers.</p> <p>23 This was the case when carfentanil 24 first appeared in northeast Ohio and reference 25 samples had to be procured from local zoos, where it</p>
<p>1 Would you agree with that statement?</p> <p>2 A Yes.</p> <p>3 Q It continues, Fentanyl is a synthetic 4 opioid with a substantially higher potency than 5 morphine, heroin and OPRs. And again, OPRs are 6 prescription opioids?</p> <p>7 A (Nods head.)</p> <p>8 Q I'm sorry, you nodded your head, but for 9 the record we need an oral answer.</p> <p>10 A Sorry, yes, I was agreeing that OPRs are 11 prescription opioids.</p> <p>12 Q It is a Schedule II drug used medically in 13 pain management and anesthesia. In 2016 14 carfentanil, a potent animal sedative, and several 15 other chemically similar analogs of Fentanyl began 16 to appear in the illicit drug trade. These drugs 17 presented and continue to present significant 18 challenges to the forensic community.</p> <p>19 Because of their higher potency, the 20 analogues of Fentanyl are frequently present in low 21 concentration which have necessitated increasingly 22 more sensitive methods of analysis to detect them.</p> <p>23 The instrumentation required for this testing is 24 expensive and may require dedicated personnel for 25 its operation and maintenance. This places major</p>	<p>Page 223</p> <p>1 is employed for large animals sedation/control to at 2 least permit initial analysis.</p> <p>3 From an interpretation standpoint, 4 the significance of these drugs may be difficult to 5 know as potency and human toxicity data may be 6 limited or nonexistent. This may also have an 7 impact on the scheduling of these drugs.</p> <p>8 Did I read that appropriately?</p> <p>9 A Yes.</p> <p>10 Q And, again, is this consistent with your 11 experience in the toxicology lab in CCMEO?</p> <p>12 A It is.</p> <p>13 MR. GALLUCCI: Objection to form.</p> <p>14 MS. RANJAN: Can we go off the record for 15 just a second?</p> <p>16 THE VIDEOGRAPHER: Off the record 3:42.</p> <p>17 (Recess)</p> <p>18 THE VIDEOGRAPHER: On the record 3:59.</p> <p>19 Q (Ms. Ranjan) Miss Kaspar, before the 20 break we were talking about the challenges the 21 office was seeing in detecting Fentanyl analogues in 22 overdose cases.</p> <p>23 Do you recall that?</p> <p>24 A Yes.</p> <p>25 Q I think we talked about a number of</p>

<p style="text-align: right;">Page 226</p> <p>1 reasons why Fentanyl analogue overdose cases were 2 particularly challenging? 3 A Yes. 4 Q For instance, there were new analogues 5 that were appearing over time? 6 A Yes. 7 Q It was difficult to obtain reference 8 materials for some of no, those analogues? 9 A Yes. 10 Q The screen tests were more time consuming? 11 A We were having to run a confirmation 12 essentially as a screen. So I suppose, yes, you 13 could say that that would be more time consuming. 14 Q And the process of reaching a good 15 screening mechanism was also more time consuming? 16 A Yes. 17 Q And that process, along with running the 18 confirmation test as a screening was also more 19 costly? 20 A Sorry, say that again? 21 Q The screening that you were doing for 22 Fentanyl analogues was not only just more time 23 consuming, it was also more costly? 24 A Yes. 25 Q And is that still the case?</p>	<p style="text-align: right;">Page 228</p> <p>1 have not been able to detect anything in the 2 person's urine and the officers were certain that 3 the person was on some sort of substance. 4 So I think when we were validating 5 this new procedure, you have to run cases. We ran 6 that to see if we could find anything. So I do know 7 that occurred on one police case that was a finished 8 case. Our report had been long gone. So, yeah, I 9 don't know if other cases, there may have been other 10 cases like that. 11 Q You're just not sure one way or the other? 12 A I'm not sure and I don't believe any cases 13 were reopened, it would have been just to see if 14 they had been there previously. 15 Q Okay. Your reopening of that other case, 16 was that at the requests of police? 17 A We did not reopen it, it was just that we 18 still had the sample, so it was just run as part of 19 our validation when you run real cases. 20 Q When did the office first start routinely 21 screening for carfentanil? 22 A Um, I don't remember the date it was in. 23 I think it was in one of those emails that were in 24 one of the exhibits. Do you want me to go back and 25 look?</p>
<p style="text-align: right;">Page 227</p> <p>1 A We have not seen much carfentanil in the 2 area lately. So we're using our regular ELISA 3 Fentanyl kit. 4 But we are still running the Fentanyl 5 confirmation on all cases that have a history of IV 6 drug abuse. 7 Q Did the office ever do any kind of 8 retrospective analysis of older cases to insure that 9 all of the Fentanyl analogues, the new ones that it 10 started seeing were detected in prior cases? 11 A We did not do a retrospective analysis on 12 all the cases. Um, there may have been particular 13 cases that were pulled. I'm not sure, I did not 14 participate in that, but I know that all of the old 15 cases were not retrospectively analyzed for the new 16 Fentanyl procedure that we have. 17 Q You say there may have been some cases 18 that were individually analyzed, is that something 19 you know of a particular instance where that 20 happened? 21 A I do know of a police case that that 22 happened on, but yeah, I don't know how many cases 23 that occurred with. And that was also, that case, I 24 believe, is a finished case. It is more of just in 25 interest to us in the laboratory because we still</p>	<p style="text-align: right;">Page 229</p> <p>1 Q Sure, if you think you might be able to 2 find it. Looks like there's another one that you 3 just looked at. I don't know if that's the right 4 one. 5 A No. Let me see this chart that they made 6 really quick. In 2015 we reported no carfentanil 7 and then in 2016 we had 56 of them. 8 So it may have been around the time 9 of this email that Eric sent where he said that we 10 needed to start adding the Fentanyl confirmation to 11 all of those cases to see how many carfentanils were 12 there. 13 Q Which exhibit is that? 14 A That is Exhibit 16. 15 Q What was the date of that email? 16 A Um, August 31st of 2016. So I would guess 17 that summer is when it became apparent to us that 18 carfentanil was in the area. 19 Q Had you heard reports prior to that time 20 that surrounding counties had started seeing 21 carfentanil cases? 22 A Immediately prior to when we start seeing 23 it in our area I saw reports about that. 24 Q Do you recall the first time you ever 25 heard of that?</p>

<p style="text-align: right;">Page 230</p> <p>1 A I do not know the date. And I had 2 mentioned it earlier, I don't remember which county 3 it was out of, it was either Stark or Summit, one of 4 those, were the first ones that I remember hearing 5 that they had a number of overdoses in one weekend 6 and then they had them analyzed somewhere. I don't 7 know where, it came back as carfentanil.</p> <p>8 Q Was that a July 4th weekend by any chance?</p> <p>9 A That could be. I'm not positive.</p> <p>10 Q Did you ever speak to the toxicologist in 11 that other county about the carfentanil that they 12 were seeing?</p> <p>13 A I did not.</p> <p>14 Q Do you know if anyone on your staff did?</p> <p>15 A I believe Eric did, Eric Levins.</p> <p>16 Q Okay. Did he ever report back to you 17 about what he learned?</p> <p>18 A He probably did because we knew at that 19 point about the carfentanil. I don't remember a 20 specific conversation though.</p> <p>21 Q Is that how you came to first learn of the 22 carfentanil becoming a problem in surrounding 23 counties?</p> <p>24 A Yes.</p> <p>25 Q Okay. Going back for a moment to the</p>	<p style="text-align: right;">Page 232</p> <p>1 A No.</p> <p>2 Q Did anyone discuss reaching out to 3 pharmacies to talk to them about your concerns?</p> <p>4 A Possibly.</p> <p>5 Q Okay.</p> <p>6 A Possibly Rose Allen, the one who was on 7 the pharmacy board.</p> <p>8 Q Do you remember what her suggestion was?</p> <p>9 A I do not.</p> <p>10 Q Was that a topic that was discussed with 11 any frequency?</p> <p>12 A I don't remember. No, I don't remember.</p> <p>13 Q It is not something that jumped out at 14 your memory of having attended the meetings?</p> <p>15 A No.</p> <p>16 Q Have you ever reviewed the complaint in 17 this matter?</p> <p>18 A Um, I may have. I don't remember.</p> <p>19 Q Do you know what a legal complaint looks 20 like?</p> <p>21 A Not off the top of my head.</p> <p>22 Q Okay. This document I think you probably 23 would have remember. It is a few hundred pages 24 long?</p> <p>25 A Okay.</p>
<p style="text-align: right;">Page 231</p> <p>1 Poison Death Review Committee. Do you ever recall 2 discussing in the Poison Death Review Committee any 3 discussion about reaching out to drug manufacturers?</p> <p>4 A I don't remember that conversation.</p> <p>5 Q Do you recall any specific recommendations 6 that may have been related to drug manufacturers?</p> <p>7 A I do not.</p> <p>8 Q What about drug distributors, did you ever 9 discussion potentially reaching out to drug 10 distributors?</p> <p>11 A Who is a drug distributor?</p> <p>12 Q That's a good question. If you don't 13 know, then that's fine.</p> <p>14 A Yeah, I don't know who -- what the 15 definition of a drug distributor would be.</p> <p>16 Q Okay. Regardless of whether you know the 17 identity of drug distributors, do you recall anyone 18 in the committee ever discussing maybe reaching out 19 to drug distributors to open a conversation about 20 their concerns?</p> <p>21 A No.</p> <p>22 Q And same thing for drug manufacturers, you 23 don't recall anyone on the committee maybe 24 mentioning let's reach out to drug manufacturers to 25 talk to them about our concerns?</p>	<p style="text-align: right;">Page 233</p> <p>1 Q So it is pretty lengthy.</p> <p>2 A I may have received it, I definitely did 3 not read a 100 page long document.</p> <p>4 Q Okay. Were you ever asked to participate 5 in putting together a complaint for this matter, 6 helping to draft one or contributing any information 7 for one?</p> <p>8 A No.</p> <p>9 Q Do you have an understanding of what the 10 allegations are in this case?</p> <p>11 A I do.</p> <p>12 Q Can you tell me what you understand about 13 the lawsuit?</p> <p>14 A Um, that our county has incurred a lot of 15 costs trying to combat this opioid crisis and 16 believes that the manufacturers and distributors 17 play a part in the problem that we're seeing in our 18 county.</p> <p>19 Q Is that the extent of your knowledge about 20 the lawsuit?</p> <p>21 A Yes.</p> <p>22 Q Do you know specifically who has been sued 23 as defendants in this case?</p> <p>24 A I did see a list, but I don't remember. I 25 remember seeing pharmaceutical companies, that's all</p>

<p style="text-align: right;">Page 234</p> <p>1 I remember about that.</p> <p>2 Q Do you have any opinions that any retail</p> <p>3 pharmacy defendant in this case did anything wrong?</p> <p>4 MR. GALLUCCI: Objection, beyond the</p> <p>5 scope.</p> <p>6 A I don't have any opinions on that.</p> <p>7 Q (Ms. Ranjan) Have you ever done any</p> <p>8 analysis that would tie any individual's death back</p> <p>9 to any actions of any particular defendant?</p> <p>10 A No, the work that we do would not indicate</p> <p>11 where the drugs have come from.</p> <p>12 Q So you can't say, for instance, that any</p> <p>13 particular overdose death was caused by a particular</p> <p>14 defendant?</p> <p>15 MR. GALLUCCI: Objection, form.</p> <p>16 A Not from the testing that I do.</p> <p>17 Q (Ms. Ranjan) And you don't have any</p> <p>18 opinion that any particular individuals death was</p> <p>19 caused by any defendant based on the information</p> <p>20 available to you as CCMEO either?</p> <p>21 MR. GALLUCCI: Objection.</p> <p>22 MS. RANJAN: Let me phrase that a little</p> <p>23 differently.</p> <p>24 Q (Ms. Ranjan) Do you have an opinion that</p> <p>25 any particular individual's death was caused by any</p>	<p style="text-align: right;">Page 236</p> <p>1 departments are using.</p> <p>2 Q Okay. But just the toxicology lab, the</p> <p>3 two that you would use would be Vertiq and Pathways?</p> <p>4 A Yes.</p> <p>5 Q And there was nothing else you would use</p> <p>6 routinely?</p> <p>7 A No.</p> <p>8 Q And just generally speaking, can you</p> <p>9 describe to me what is stored in Vertiq? I think</p> <p>10 you mentioned some investigative report, is there</p> <p>11 anything else?</p> <p>12 A Yeah. Um, I actually don't know the full</p> <p>13 extent of what is stored in Vertiq because we only</p> <p>14 have access to certain portions of it.</p> <p>15 Q Okay. That's fair. Can you just describe</p> <p>16 to me what is available in the portion that you have</p> <p>17 access to?</p> <p>18 A Yes. So I am able to pull up a report</p> <p>19 that shows me a summary of all the cases that came</p> <p>20 in over a certain time period. So I can just put in</p> <p>21 whatever dates I would like to see and it will give</p> <p>22 me summary of all of the cases that were received in</p> <p>23 our office during that time.</p> <p>24 On an individual case, I can get the</p> <p>25 investigation report. There is a lot of demographic</p>
<p style="text-align: right;">Page 235</p> <p>1 defendant based on the information available to you</p> <p>2 at CCMEO?</p> <p>3 MR. GALLUCCI: Objection.</p> <p>4 A Not solely caused by any of the</p> <p>5 defendants.</p> <p>6 Q (Ms. Ranjan) And can you identify any</p> <p>7 particular individual whose death you believe to</p> <p>8 have been caused by one particular defendant or</p> <p>9 group of defendants?</p> <p>10 MR. GALLUCCI: Objection, beyond the</p> <p>11 scope.</p> <p>12 A No.</p> <p>13 Q (Ms. Ranjan) Let's talk about the files</p> <p>14 that you have at CCMEO. You have mentioned a couple</p> <p>15 now of databases to me. I think one was Vertiq and</p> <p>16 one was Pathways.</p> <p>17 A Yes.</p> <p>18 Q Are there any other places where you keep</p> <p>19 electronic files in your day-to-day work?</p> <p>20 A Other laboratory in the offices for sure</p> <p>21 have other databases. I know Justice Tracks is</p> <p>22 used, beyond that I don't know what other databases</p> <p>23 are being used. Toxicology uses Pathways. And the</p> <p>24 building as a whole uses Vertiq, but other than</p> <p>25 that, I'm not aware of other databases what other</p>	<p style="text-align: right;">Page 237</p> <p>1 information about the decedent where they live,</p> <p>2 where they were found dead, what their occupation</p> <p>3 was, there's a lot of demographic information.</p> <p>4 There are portions of the database</p> <p>5 that are filled in describing the progress of the</p> <p>6 case. When it was received, when the tox report was</p> <p>7 received from start to finish.</p> <p>8 There is a medication inventory on</p> <p>9 there. So if I wanted, if I wanted to look up a</p> <p>10 specific case, I can type in that case and see if</p> <p>11 there were any medications received with that case,</p> <p>12 but we also have that information in our case files</p> <p>13 for the decedent in toxicology. So I wouldn't</p> <p>14 really consult it that for that, but you could also</p> <p>15 do a search for a particular type of drug and see</p> <p>16 what decedents had that drug in their medication.</p> <p>17 There's also a portion or a tab where</p> <p>18 you can click and see what the final verdict on the</p> <p>19 case was, so what the cause of death was.</p> <p>20 And I think there's a spot on there</p> <p>21 where people can write notes back and forth to each</p> <p>22 other about what's gone on with the case and people</p> <p>23 that they have discussed with case with. But</p> <p>24 toxicology normally does not use that, it seems to</p> <p>25 be more investigators document what they have talked</p>

<p style="text-align: right;">Page 238</p> <p>1 to police officers or family or something like that. 2 So, yeah, I think that's most of what 3 I can get. 4 Q Okay. Are the autopsy reports stored in 5 Vertiq? 6 A They may be, I don't have access to that. 7 So not in my Vertiq. 8 Q You can see the cause and manner and 9 determination? 10 A Yes. 11 Q Are the toxicology reports stored in 12 Vertiq? 13 A No. 14 Q Are those stored in Pathways? No, you 15 told me it was just the information to generate the 16 report? 17 A Yes. 18 Q So once that final report is generated, is 19 it stored somewhere? 20 A We have a paper copy of it in the case 21 file. And I don't know what the official signed 22 copy that goes to the pathologist, I don't know 23 where it goes from there. And then through 24 Pathways, if we needed to, we could regenerate that 25 report.</p>	<p style="text-align: right;">Page 240</p> <p>1 A I don't know if it is available to me 2 because I did have the account at one point. I 3 haven't tried since we haven't had that Point of 4 Death Review Committee. So I do not know if I have 5 access still, I have not tried, and no one in 6 toxicology has an account. At the time it was me 7 and Dr. Gilson. I don't know if Hugh had access. 8 So people may be looking at them, but I have not. 9 Q Okay. Have we discussed everything then 10 that you can recall that you have access to in 11 Vertiq? 12 A Yes. 13 Q Let's talk about Pathways. You said that 14 Pathways houses the results of all of the 15 toxicological testing? 16 A Yes. 17 Q What else is stored in Pathways, if 18 anything? 19 A Well, you don't want to hear about police 20 cases, chain of custody for police cases in there. 21 Q What are police cases? 22 A DUID and the drug facilitated sexual 23 assault cases. We'll have an attachment where we 24 scan in the chain of custody. We do not do that for 25 the coroner or medical examiner's cases.</p>
<p style="text-align: right;">Page 239</p> <p>1 Obviously, it wouldn't be the 2 official one because it wouldn't have a signature on 3 it, but you could regenerate the report through 4 Pathways. 5 Q You mention a medication inventory that's 6 available in Vertiq. I think you said there is also 7 a paper copy in your case file? 8 A Yes. 9 Q Is that based on the information that was 10 gathered by the investigator? 11 A I believe that the investigator collects 12 the medications that are on scene and they come to 13 the office with the body and then they're 14 inventoried possibly by receiving, I'm not exactly 15 sure who is doing the inventory of the medications. 16 Q Are you aware of any other way that a 17 medication makes it onto that medication inventory? 18 A No. 19 Q Do you run OARRS reports for overdose 20 cases? 21 A No. 22 Q Do you know if anyone in the office does? 23 A I do not know that. 24 Q So those are not something that being 25 available to you any in any of your systems?</p>	<p style="text-align: right;">Page 241</p> <p>1 So Pathways can do statistical 2 analysis. So there is a module where we could 3 search for a certain type of drugs, so that's how 4 Rindi and I did that. Incident of 6-AM poster. 5 It has nothing to do with the causes 6 of death, it is solely incidents. So it will go 7 through the Pathways database and find incidents of 8 6-AM and whatever type of case we tell it to look 9 for. So I can be specific and say, only look at IN 10 cases in 2017 and it will give me back the results 11 of how many, it will tell me what cases had 12 6-acetylmorphine in them and what the concentration 13 was. 14 It can also do statistics on our 15 performance as a laboratory. It will generate 16 reports on our turnaround times, but yeah, that's 17 all that's in Pathways. 18 Q Are Pathways and Vertiq, you said those 19 are the only two places that you have electronic 20 records? 21 A Yeah. 22 Q Outside of emails, obviously? 23 A Yeah. 24 Q Do you also have electronic records on 25 your own computer at the toxicology lab?</p>

<p style="text-align: right;">Page 242</p> <p>1 A Okay. So maybe I wasn't understanding. 2 We do have drives where toxicology has folders. 3 Q Uh-huh. 4 A There is a W drive where everybody in 5 toxicology has access to the information that's in 6 the toxicology folder there. Then the Y drive only 7 select people have access to and that's more of the 8 control documents that they just don't want anybody 9 to be able to change. 10 So those are sections in toxicology 11 that would be storing electronic data. 12 Q What is stored in the W drive? 13 A The W drive, I think originally when they 14 made the two drives, they were supposed to mirror 15 each other. So there's a ton of information. There 16 is records in there, just on, um, my gosh, like 17 everything that we have in the laboratory. 18 So you could go into records and you 19 could see past order forms that we have put in. You 20 can see certificate of analysis. Yeah, I don't 21 know. That's where we used to store our continuing 22 education articles. You would go in there to find 23 the article to read. 24 Um -- 25 Q Just basically a general catchall for the</p>	<p style="text-align: right;">Page 244</p> <p>1 retained. 2 Q And you told me that they include paper 3 copies of the final toxicology report and the 4 medication history. Is there anything else that's 5 included in the case file? 6 A Yes, all the data that was generated from 7 any assay that was performed for that particular 8 case will be in that folder. 9 Q Anything else? 10 A Um, sometimes there will be email 11 communications. If, for instance, we find a drug 12 that we cannot confirm in-house, there may be an 13 email from Eric to the pathologist asking if they 14 want us to send it out for quantification and then 15 when they respond, that will all go in the folder. 16 That's not required, but you will see that 17 relatively frequently. If we do send out to 18 reference labs, their report will also be in that 19 case file. 20 Q These case files are specific to 21 toxicology? 22 A Yes. 23 Q So they would not include, for instance, 24 the autopsy reports? 25 A No.</p>
<p style="text-align: right;">Page 243</p> <p>1 documents that you generate in the toxicology lab? 2 A Yeah, that is what it is. 3 Q So, for instance, you were working on a 4 presentation or something like that, you might store 5 it there? 6 A Um, I would probably store that on my own 7 personal computer and then save it on a flash drive 8 that is my own personal flash drive. 9 Q When you say personal computer, do you 10 mean a computer that's assigned to you at the 11 toxicology laboratory? 12 A Yes, it's a county owned computer that is 13 at my desk. 14 Q Okay. Is there anywhere else at the 15 county where you have electronic records that you 16 personally use? 17 A Um, on my desktop and I think that's 18 probably it then. 19 Q Okay. You talked about case files, are 20 those paper files that the office maintains? 21 A Yes. We have actual manila folders that 22 will have all of the data that was generated for 23 that case. 24 Q Do you know how long those are retained? 25 A I do not remember how long those are</p>	<p style="text-align: right;">Page 245</p> <p>1 Q Those are stored somewhere else? 2 A Yes. 3 Q Do you know if your paper case files ever 4 make it into a larger master file for the case? 5 A Do you mean actual data that we generate? 6 Q No, I guess what I'm getting at, for 7 instance, say that I wanted to, you know, see all 8 the documents that the office has on a particular 9 case, would I need to go and get the pathologist's 10 case file and the toxicologist's case file and put 11 those two together in order to see everything or is 12 there some master case file that is housed somewhere 13 that has everything? 14 A I believe they are actually scanning 15 everything. So I don't know who it is that you 16 would actually have to contact to get that 17 information, but I believe once they scan 18 everything, you can get the final autopsy report and 19 toxicology report in one electronic file. 20 Q Okay. Are there any other paper files 21 that the toxicology laboratory maintains other than 22 the case files? 23 A Um, we have files for proficiency tests. 24 So it is the same idea, it is just a different type 25 of case. They're not real cases. That's how we</p>

<p style="text-align: right;">Page 246</p> <p>1 show our proficiency through the years to be able to 2 pass these proficiency tests. So those are the only 3 paper files that we have.</p> <p>4 Q Do you have any kind of calibration 5 reports for the equipment that the lab uses?</p> <p>6 A We have maintenance logs that shows what 7 maintenance has been performed. Some of the 8 instruments do generate reports that are like a 9 calibration report that show how the instrument is 10 performing.</p> <p>11 So we do have those documents on the 12 GC/MS instruments. Those are called auto tunes.</p> <p>13 With each batch of testing that we 14 run, we generate calibration data and we have 15 requirements that those have to meet to report out. 16 That would be with each batch that we run.</p> <p>17 Q Okay. Are those stored somewhere, or are 18 those maintenance and calibration reports?</p> <p>19 A The maintenance reports, yes, those are 20 all stored together and the calibration reports that 21 I'm speaking of are with the actual data. So those 22 get stored in a particular case file and we know on 23 that set where that's going to be stored.</p> <p>24 Q Okay. Are there any other electronic or 25 paper files that the toxicology lab maintains that</p>	<p style="text-align: right;">Page 248</p> <p>1 frequently.</p> <p>2 Q I believe you said that you don't have 3 responsibility for any of the budgetary decisions in 4 the office; is that right?</p> <p>5 A No, I do not.</p> <p>6 Q So you don't have any opinion as to, well, 7 let me just ask you. Have the office undergone any 8 kind of changes as a result of opioid abuse in the 9 recent past?</p> <p>10 A Yes.</p> <p>11 Q Can you describe those for me?</p> <p>12 A Um, we have had to add personnel in a 13 number of departments. I know toxicology we got 14 funding for an additional analyst, drug chemistry, I 15 believe we got funding for an additional analyst, 16 DNA has had to add on. The investigation staff has 17 had to increase. Also I believe the pathologist 18 have had to increase due to the number of cases that 19 we have in the office.</p> <p>20 We've also, as you said before, we 21 had to purchase new instrumentation to be able to 22 detect the low levels of the Fentanyl analogues. So 23 our laboratory has purchased 2 LC/MS triple quads, 24 which I don't know the exact cost of them, but 25 they're approximately \$200,000 each. And we've also</p>
<p style="text-align: right;">Page 247</p> <p>1 we haven't discussed?</p> <p>2 A I don't think so.</p> <p>3 Q We already talked about the biological 4 samples that come through the lab. You said those 5 are stored in freezer location by the people who did 6 the accessioning?</p> <p>7 A When we have a case that we're actively 8 working on, it is in a refrigerator. And then when 9 the case is finished, then they're moved over to the 10 freezer for the more permanent storage.</p> <p>11 Q Okay. You also handle DUI cases for the 12 police department?</p> <p>13 A Yes.</p> <p>14 Q Is it fair to say that alcohol is also a 15 substance that is abused in Cuyahoga County?</p> <p>16 A Um --</p> <p>17 MR. GALLUCCI: Objection to form.</p> <p>18 A Yeah, I don't know that I can say that it 19 is abused, but we do have a lot of cases positive 20 for ethanol.</p> <p>21 Q (Ms. Ranjan) In fact, ethanol is one of 22 the substances that you find most routinely in the 23 samples that you can analyze?</p> <p>24 A I would agree with that. I don't know the 25 numbers though. I would agree we see that very</p>	<p style="text-align: right;">Page 249</p> <p>1 purchased a LC or Bee trap, which is one of those 2 high mass resolution analyzers that had been 3 mentioned in an email that Eric had sent.</p> <p>4 And the cost of that is approximately 5 500,000 for that instrument.</p> <p>6 Q Are the LC/MS triple quads used for any 7 purpose other than analyzing Fentanyl analogues?</p> <p>8 A One of them is. We started out with, so 9 when we only had one of them, the Fentanyls were on 10 there with the cannabinoids, the AMIENs and that's 11 it. And then we got that second triple quad and the 12 Fentanyl assay is alone on the one and now we do 13 cannabinoids, AMEINs and gabapentin on the original 14 one that we have.</p> <p>15 Q So in addition to opioids, the LC/MS 16 triple quads are also used for cannabinoids, AMEINs 17 and gabapentin?</p> <p>18 A Yes.</p> <p>19 Q And the opioids that are tested on the 20 LC/MS triple quads, those are used to test for both 21 illicit and prescription types of opioids?</p> <p>22 A Yeah, it is our Fentanyl and Fentanyl 23 analogue assay is what we are running there. So, 24 yes, the Fentanyl is, I mean, it can be prescribed, 25 but the rest of them are Fentanyl analogues are in</p>

<p>Page 250</p> <p>1 that.</p> <p>2 Q In terms of the opioids category, it is</p> <p>3 just Fentanyl and Fentanyl analogues that are run on</p> <p>4 that machine?</p> <p>5 A Yes.</p> <p>6 Q And that's the same for both of those LCMS</p> <p>7 triple quads?</p> <p>8 A Yes.</p> <p>9 Q And then you also mentioned an LC or Bee</p> <p>10 trap?</p> <p>11 A Yes.</p> <p>12 Q Is that used for any purpose other than</p> <p>13 opioid detection?</p> <p>14 A We just got that instrument. So we have</p> <p>15 not started any testing on it yet.</p> <p>16 Q When did you buy the two, LC/MS triple</p> <p>17 quads?</p> <p>18 A The first one I'm not sure. I think we</p> <p>19 got that in 2014. The second one, I again do not</p> <p>20 know the year. If I could guess, I would say it was</p> <p>21 around 2016, maybe 2017.</p> <p>22 Q So this is roughly around the time frame</p> <p>23 that we are looking at on that chart earlier where</p> <p>24 there was a significant bump in the number of</p> <p>25 overdose deaths that you were seeing, right?</p>	<p>Page 252</p> <p>1 left.</p> <p>2 Q Okay. So that wasn't a new role, it was</p> <p>3 just filling in a role that someone else had left?</p> <p>4 A Okay. Hold on, give me one second now. I</p> <p>5 need to think.</p> <p>6 We got a new position and our former</p> <p>7 analyst left. One of our FS1s filled that FS2</p> <p>8 position. I think that Laura left, and then we</p> <p>9 hired Christie, Christie is actually the new</p> <p>10 position and then because Cassandra moved up from</p> <p>11 FS1 to FS2, we her filled FS1 with Kim.</p> <p>12 So, Christie, oh my gosh, I can't</p> <p>13 think of her name, it will come to me, I can't think</p> <p>14 of her last name. Christie is the one who filled</p> <p>15 the additional spot.</p> <p>16 Q That's okay, her first name is Christie</p> <p>17 and it sounds like instead of two additional</p> <p>18 positions, the office added one additional position?</p> <p>19 A One additional in toxicology, yes.</p> <p>20 Q You also mentioned that there was a DNA</p> <p>21 analyst who was hired?</p> <p>22 A There was at least one. I don't know how</p> <p>23 many actually were hired over there.</p> <p>24 Q Is that a new position?</p> <p>25 A I believe they were new positions.</p>
<p>Page 251</p> <p>1 A Yes.</p> <p>2 Q That's when you made the decision to</p> <p>3 purchase LC/MS triple quads?</p> <p>4 A I don't know when that decision was made,</p> <p>5 but definitely the second one was purchased in that</p> <p>6 time frame and the decision was to have been made to</p> <p>7 purchase it in that time frame.</p> <p>8 Q Okay. And then you also mentioned that</p> <p>9 you hired an additional person in toxicology, what</p> <p>10 is that person's name?</p> <p>11 A Um, hold on, let me think because we have</p> <p>12 two new people. I have to think of who. Okay. Her</p> <p>13 name is Kim Yacco.</p> <p>14 Q What is her role?</p> <p>15 A I'm sorry, what is that?</p> <p>16 Q What is her role?</p> <p>17 A She is a Forensics Toxicologist I.</p> <p>18 Q When was she hired?</p> <p>19 A She was hired, I believe she started maybe</p> <p>20 three months ago.</p> <p>21 Q Okay. You said that you also hired an</p> <p>22 additional analyst?</p> <p>23 A Yes. So last, I think this past maybe</p> <p>24 August she started. And she was filling in a</p> <p>25 position that a Former Forensic Scientist II had</p>	<p>Page 253</p> <p>1 Q When I asked you the question about</p> <p>2 changes in the office related to the opioid crisis,</p> <p>3 you said that this DNA analyst was hired as a result</p> <p>4 of that. Can you explain that to me?</p> <p>5 A So our county is trying to prosecute the</p> <p>6 dealers of these illicit drugs. So whenever drug</p> <p>7 chemistry gets a drugs submission into their</p> <p>8 laboratory, it actually first goes to DNA and they</p> <p>9 try to get touch DNA off of the packaging.</p> <p>10 Q Do you know when that additional DNA</p> <p>11 analyst position was added?</p> <p>12 A I don't.</p> <p>13 Q Have there been any other changes in the</p> <p>14 office that you would, that you would attribute to</p> <p>15 the opioid crisis?</p> <p>16 A We had to get a mobile unit that's been</p> <p>17 parked outside now. I believe it is refrigerated so</p> <p>18 that if we were to run out of space in our storage</p> <p>19 that we currently have, they could overflow into the</p> <p>20 mobile unit that's parked in the garage or like in</p> <p>21 our receiving department.</p> <p>22 Q When did you get that mobile unit?</p> <p>23 A I don't know the date of that.</p> <p>24 Q Was it in the last year?</p> <p>25 A No, it was more than a year ago.</p>

<p style="text-align: right;">Page 254</p> <p>1 Q Approximately two years ago, three year 2 ago?</p> <p>3 A Two or three years ago is fair.</p> <p>4 Q Roughly around that same time frame we are 5 looking at around the chart around the 2015 time 6 frame when there was significant increase in the 7 overall overdose cases that you were seeing?</p> <p>8 A Yes.</p> <p>9 Q Is it fair to say that the bulk of the 10 changes in the office that responded to opioid 11 crisis have been in that same time frame, roughly 12 2015 going forward?</p> <p>13 A Yes.</p> <p>14 Q Anything else that you can think of that 15 changed in the office in order to respond to the 16 opioid crisis?</p> <p>17 A No, I don't think so.</p> <p>18 Q I think I've covered almost everything. 19 We don't need to cover that since we talked about 20 what we just talked about.</p> <p>21 (Deposition Exhibit Number 19 22 marked for identification.)</p> <p>23 Q (Ms. Ranjan) I'm going to show you a 24 document I have marked as Exhibit 19.</p> <p>25 This is an email, looks like on the</p>	<p style="text-align: right;">Page 256</p> <p>1 A I do.</p> <p>2 Q Does that refresh your recollection that 3 that was, in fact, the press conference?</p> <p>4 A I do not remember the particular press 5 conference, but I believe it would be about heroin 6 because we were not seeing Fentanyl at that point.</p> <p>7 Q Can you recall other instances where there 8 were public statements made that you believe to be 9 inaccurate about the rate of prescription opiate 10 dental in Cuyahoga County?</p> <p>11 A Not off the top of my head, no, I don't.</p> <p>12 Q You're just not sure one way or the other?</p> <p>13 A Um, I feel like I frequently see things in 14 the media that doesn't necessarily match with what 15 we're seeing in our laboratory, but I don't have any 16 any specification examples.</p> <p>17 MS. RANJAN: Let's go off the record.</p> <p>18 THE VIDEOGRAPHER: Off the record 4:41.</p> <p>19 (Recess)</p> <p>20 THE VIDEOGRAPHER: On the record 4:51.</p> <p>21 Q (Ms. Ranjan) Miss Kaspar, I have just a 22 couple more questions for you.</p> <p>23 Um, the LC/MS triple quad machines 24 that mentioned purchasing in the 2014, 2017 time 25 frame, one of the reasons why you purchased those</p>
<p style="text-align: right;">Page 255</p> <p>1 bottom thread it is from you to Hugh Shannon dated 2 September 27th, 2012.</p> <p>3 A Yes.</p> <p>4 Q Can you read it allowed for us?</p> <p>5 A You want me to read my portion of it?</p> <p>6 Q Yes, please.</p> <p>7 A I just read this article on Cleveland.com 8 last night. See link below. And it seems like the 9 authors info is incorrect. She states that 10 prescription opiates are killing more people than 11 heroin and cocaine combined. I was just wondering 12 if anyone had spoken to this woman and where she had 13 gotten her data from. Seems like she stated pretty 14 much the opposite of what was just discussed in the 15 press conference.</p> <p>16 Q Do you recall seeing this article and 17 having that reaction?</p> <p>18 A I don't.</p> <p>19 Q Do you remember the press conference that 20 you are referencing there?</p> <p>21 A I do not.</p> <p>22 Q Given the time frame, 2012 time frame, do 23 you think that it is possible that that press 24 conference related to the increase instances of 25 heroin death in Cuyahoga County?</p>	<p style="text-align: right;">Page 257</p> <p>1 was to test for Fentanyl analogues, right?</p> <p>2 A That's what we used the second one that we 3 purchased for so far exclusively. So I would assume 4 that that's why that was purchased.</p> <p>5 Q Okay. My question is just slightly 6 different though than the question I think you are 7 answering. The reason why you needed the LC/MS 8 triple quad was to test for Fentanyl analogues, 9 right?</p> <p>10 A Um, are you asking because of the 11 concentration that we find them in the cases are so 12 low, is that what you are asking?</p> <p>13 Q What I'm asking you have been testing for 14 Fentanyl for years before that?</p> <p>15 A Yes.</p> <p>16 Q And your equipment had been adequate to 17 test for Fentanyl?</p> <p>18 A Yes.</p> <p>19 Q So it was the Fentanyl analogues that were 20 the change that necessitated purchasing the LC/MS 21 triple quad machines?</p> <p>22 A Yes. The Fentanyl analogues are 23 frequently at lower concentrations, so we have to be 24 even more sensitive to detect them.</p> <p>25 They also, um, many of them share the</p>

<p style="text-align: right;">Page 258</p> <p>1 same mass, so it is hard to differentiate them, but 2 with the LC-MS/MS, we are able to do that. 3 Q Okay. Has anyone asked you to collect 4 your documents in this case? We talked a lot 5 earlier about a bunch of electronic documents that 6 the toxicology lab has a paper file the toxicology 7 lab has. And I think you said you have some files 8 on your own computer at the lab and some files on a 9 share drop, electronic files on shared drive. To 10 your knowledge have those files been collected for 11 this matter?</p> <p>12 A So I was asked to put on a flash drive any 13 of the files that I would have relating to any 14 presentation and publications that I made in regards 15 to opiates, so that is what I handed over.</p> <p>16 Q Okay. And is that the extent of your 17 knowledge about what has been collected from the 18 toxicology office in connection with this lawsuit?</p> <p>19 A Um, I -- yeah, I have no idea what has 20 been collected. That's all that I handed over. You 21 guys obviously have a lot more than that. I'm not 22 sure what has been collected.</p> <p>23 Q Okay. Did anyone have any conversations 24 with you about collecting anything beyond what you 25 just described about you personally going out and</p>	<p style="text-align: right;">Page 260</p> <p>1 MR. GALLUCCI: I'm going to state an 2 objection, beyond the scope. 3 A Prescribing doctors, the pharmacists, the 4 individual themself. 5 Q (Ms. O'Gorman) Are you aware of any way 6 to determine what part or what portion or percentage 7 each of these various players is responsible for? 8 MR. GALLUCCI: Same objection. 9 A I don't have that information. 10 Q (Ms. O'Gorman) Do you know if anybody 11 does? 12 A Um, anyone at my office? 13 Q Just anyone that you are aware of? 14 A Um, I'm -- I'm no, no one that I 15 personally am aware of. Actually, there are people, 16 but I don't know of anyone. 17 Q Are you aware of anybody in the toxicology 18 office at the Cuyahoga County Medical Examiner's 19 Office who has been terminated for cause? 20 A No. 21 Q Do you know somebody named Gadean Sirn, 22 S-I-R-N? 23 A Yes. 24 Q Is he still working at the Cuyahoga County 25 Medical Examiner's Office?</p>
<p style="text-align: right;">Page 259</p> <p>1 collecting any about what you just described? 2 A No. 3 Q And are you aware of anything else being 4 collected beyond what you just described? 5 A No. 6 MS. RANJAN: All right. That's all I 7 have. I think my co-counsel would like to ask you a 8 few questions as well. Thank you for your time. 9 EXAMINATION 10 BY MS. O'GORMAN: 11 Q Good afternoon. I represent two of the 12 defendants in this lawsuit. I just have a few 13 follow-up questions for you. I apologize that I 14 will be jumping around a lot just things that we 15 covered that I wanted to ask you a little bit more 16 about. 17 You were asked about the allegations 18 in the complaint and you testified that you believe 19 the county has incurred costs because manufacturers 20 and drug distributors played a part in connection 21 with the opioid crisis. 22 Do you recall that testimony? 23 A Yes. 24 Q Who else played a part? 25 A Um, I believe that the --</p>	<p style="text-align: right;">Page 261</p> <p>1 A No, he is not. 2 Q Do you know the circumstances under which 3 he left? 4 A I do know that he was fired. He was in 5 the drug chemistry department though. I don't know 6 the exact circumstances of what happened. 7 Q Do you know what kind of work he did in 8 the drug chemistry department? 9 A I don't. 10 Q And that's the department that would test 11 physical samples as opposed to biological samples? 12 A Yes. They receive actual drugs specimen 13 and have to test and determine what is present. 14 Q Do you recall your testimony about access 15 to other's data for the purpose of your work on the 16 Poison Death Review Committee? 17 A Yes. 18 Q Do you know if anybody for the Cuyahoga 19 County Medical Examiner's Office has reviewed OARRS 20 data since 2013? 21 A I don't know that. 22 Q Do you still have the print-out of the 23 OARRS data that you referenced in the emails you 24 looked today? 25 A I believe that I do.</p>

<p style="text-align: right;">Page 262</p> <p>1 Q And where do you have those?</p> <p>2 A Um, I'm assuming they're in my desk filing</p> <p>3 cabinet drawer.</p> <p>4 Q Okay. So if we asked your counsel to</p> <p>5 provide those to us, would you be able to take them</p> <p>6 out of your desk and produce them?</p> <p>7 A I believe that I would.</p> <p>8 Q What do the print-outs entail?</p> <p>9 A Um, I don't remember because I haven't</p> <p>10 looked at them in a long time. They -- I'm assuming</p> <p>11 they have the person's name on them and then there</p> <p>12 must have been a certain amount of time that we were</p> <p>13 able to look back. So we must have picked a time</p> <p>14 frame to look back and then you would just see what</p> <p>15 prescriptions were present on that person's OARRS</p> <p>16 report. I believe the prescribing doctor was on</p> <p>17 there, I believe that there was a date that the</p> <p>18 prescription, there was some date, I'm not sure when</p> <p>19 the prescription was written or when it was filled.</p> <p>20 And then I believe you could also see</p> <p>21 what quantity of pills the prescription was for and</p> <p>22 how it was supposed to be taken. I believe all of</p> <p>23 that was on there.</p> <p>24 Q So would you have a print-out for each of</p> <p>25 the individual cases that you were reviewing?</p>	<p style="text-align: right;">Page 264</p> <p>1 Examiner's Office?</p> <p>2 A There was a case where I remember the</p> <p>3 investigation, investigation report saying that the</p> <p>4 person was suspected of doctor shopping. So they</p> <p>5 probably got that from the family. I don't even</p> <p>6 know, that may have been this case. The way that I</p> <p>7 stated this, I actually say the investigation report</p> <p>8 is where I got that information from.</p> <p>9 So they must have made a comment</p> <p>10 about how many oxymorphone prescriptions, they must</p> <p>11 have said something that made me think that because</p> <p>12 we don't typically know how many people have</p> <p>13 prescribed opioids to people based on the scene.</p> <p>14 Q You are not aware of anybody at the</p> <p>15 Cuyahoga County Medical Examiner's Office reporting</p> <p>16 any doctors who are suspected of inappropriate</p> <p>17 prescribing, are you?</p> <p>18 A I don't know of anybody.</p> <p>19 Q As part of your work to accomplishments</p> <p>20 and challenges session to decedent medical records?</p> <p>21 A Not that I know of.</p> <p>22 Q Does anybody in the office have access to</p> <p>23 medical records?</p> <p>24 A I would believe that the pathologist would</p> <p>25 have access to that.</p>
<p style="text-align: right;">Page 263</p> <p>1 A Yes.</p> <p>2 Q Did you obtain medical records for any of</p> <p>3 those cases?</p> <p>4 A I did not.</p> <p>5 Q Do you know if anybody on the Poison Death</p> <p>6 Review Committee did?</p> <p>7 A I don't know for sure. Dr. Gilson may</p> <p>8 have if someone did, it would have been him.</p> <p>9 Q Do you recall Exhibit 13 in which you</p> <p>10 there was a question raised about whether a</p> <p>11 complaint could be made to the Ohio Medical Board?</p> <p>12 A Um, yes, I recall this email.</p> <p>13 Q Were you ever contacted by a member of the</p> <p>14 Ohio Medical Board for information about suspected</p> <p>15 cases of doctor shopping?</p> <p>16 A I was not.</p> <p>17 Q If you recall looking at Exhibit 12, there</p> <p>18 was an incident of suspected doctor shopping that</p> <p>19 came to your attention.</p> <p>20 Do you remember being asked about</p> <p>21 that?</p> <p>22 A Yes.</p> <p>23 Q Do you recall any other instances of</p> <p>24 suspected doctor shopping that came to your</p> <p>25 attention at the time of the Cuyahoga County Medical</p>	<p style="text-align: right;">Page 265</p> <p>1 Q You talked about a mobile unit that was</p> <p>2 brought in in the event of overflow capacity was</p> <p>3 needed. Do you know whether that has ever been used</p> <p>4 for that purpose?</p> <p>5 A I do not believe we have had to use that.</p> <p>6 Q You testified earlier that you're not a</p> <p>7 medical doctor, correct?</p> <p>8 A Correct.</p> <p>9 Q Have you ever been participated in a call</p> <p>10 by a drug manufacturers to a doctor's office so</p> <p>11 where a drug representative would go in to speak to</p> <p>12 the doctor. Have you ever participated in any such</p> <p>13 communication?</p> <p>14 A No.</p> <p>15 Q Have you ever seen promotional materials</p> <p>16 for opioid medications?</p> <p>17 A I'm sure that I have. I can't think of</p> <p>18 any specific ones.</p> <p>19 Q Under what circumstances would you have</p> <p>20 seen it?</p> <p>21 A Um, I would think I have seen one on TV,</p> <p>22 but I can't think of any specific ones.</p> <p>23 Q Can you think of any specific drug that</p> <p>24 these television ads might have related to?</p> <p>25 A No, I can't.</p>

<p style="text-align: right;">Page 266</p> <p>1 Q Do you have any knowledge in which 2 frequency doctors from Cuyahoga County have received 3 promotional visits by pharmaceutical companies? 4 A No, I do not. 5 Q Do you have any knowledge of specific 6 promotional campaign for opioid medications that you 7 consider to be false or misleading? 8 A No, I do not. 9 Q Do you have any knowledge of any specific 10 doctor who received false or misleading information 11 during promotional visits by a opioid manufacturer? 12 A No, I do not. 13 Q Do you have any knowledge regarding any 14 doctors reaction to promotional visit by an opioid 15 manufacturer? 16 A No, I do not. 17 Q And you can't identify any prescription 18 openings that were written for a patient because of 19 a promotion a pharmaceutical company? 20 A No. 21 Q Can you identify doctors who changed their 22 prescribing practices and prescribed opioid 23 medications because of a visit by a pharmaceutical 24 manufacturer to their office? 25 A No.</p>	<p style="text-align: right;">Page 268</p> <p>1 oxymorphone and the Opana. 2 They must have had some sort of press 3 statement about how they were changing the 4 formulation and when that was going to occur. 5 Q And you went and visited the website to 6 look at that information or did you capture it and 7 lump it in your presentation? 8 A Yes, I put that information in the 9 presentation. 10 Q Do you know why you included that 11 information? 12 A That was one of my hypothesis why people 13 may be starting to use heroin was that the 14 formulation change on those two prescription 15 medications made it more difficult for them to 16 abuse. 17 Q How did you formulate that hypothesis? 18 A That was just something that I came to on 19 my own. 20 Q Did you speak with anybody at the medical 21 examiner's office about it? 22 A Um, I'm assuming I did. Probably Eric 23 Lavins, my supervisor and I believe Dr. Wyman was 24 the chief toxicologist at the time. I would think 25 that I had conversations with them about that.</p>
<p style="text-align: right;">Page 267</p> <p>1 Q Do you have any knowledge of how drugs are 2 regulated in this country? 3 A No. 4 Q Are you aware that the FDA approves 5 labeling for medications? 6 A Yes. 7 Q Are you aware that manufacturers of 8 medications are required to submit their labeling to 9 the FDA for approval? 10 A Yes. 11 Q Are you aware that manufacturers are also 12 required to submit promotional materials to the FDA? 13 A No. 14 Q Have you ever contacted any manufacturer 15 of opioid medication? 16 A No. 17 Q Have you ever looked at a website of any 18 opioid manufacturers? 19 A Yes. 20 Q When did you do that? 21 A I know that I have looked at the website 22 for, I think when I was making one of my 23 presentations I was talking about the formulation 24 changes of Oxycontin and Opana, and I believe one of 25 my references was the maybe Endo website for the</p>	<p style="text-align: right;">Page 269</p> <p>1 Q Do you recall what their response was? 2 A No, I don't. 3 Q Were you of the belief that the change in 4 formulation made these drugs more difficult to 5 abuse? 6 MR. GALLUCCI: Objection, outside the 7 scope. 8 A Um, I believe that it did make them more 9 difficult to abuse. 10 Q (Ms. O'Gorman) Is there an IT person in 11 the Cuyahoga County Medical Examiner's Office? 12 A Yes. 13 Q Who is that? 14 A Um, there are three of them. Bill Lexy is 15 the one we deal with most frequently because 16 Pathways database is his. He created it. 17 Um, Bhavna Patel. That's 18 B-H-A-V-N-A, I believe is how she spells it. And 19 Jody Schneider. 20 Q So Pathway is a custom system for the 21 purpose the Cuyahoga County Medical Examiner's 22 Office? 23 A It is. 24 Q The other system is called Vertec? 25 A Vertiq.</p>

<p style="text-align: right;">Page 270</p> <p>1 Q Is that a custom system as well?</p> <p>2 A I don't think so.</p> <p>3 Q Do the Vertiq and Pathfinder, Pathway</p> <p>4 systems communicate with each other?</p> <p>5 A No.</p> <p>6 Q Is there any reason why the toxicologist</p> <p>7 department doesn't use the Vertiq system?</p> <p>8 A I have no idea why we selected Pathways.</p> <p>9 I don't even know if Vertiq has the capability to</p> <p>10 have a module for toxicology.</p> <p>11 MS. O'GORMAN: I have nothing further,</p> <p>12 thank you.</p> <p>13 EXAMINATION</p> <p>14 BY MR. EMCH:</p> <p>15 Q How you holding up?</p> <p>16 A I'm pretty tired.</p> <p>17 Q First question is, have you ever in your</p> <p>18 professional career up to this date talked this much</p> <p>19 in one day?</p> <p>20 A No.</p> <p>21 Q Okay. I'll try to be pretty brief. I</p> <p>22 apologize in advance if there is anything that</p> <p>23 sounds duplicative, I'm sorry about that. Sometimes</p> <p>24 we all get lost in all of the stuff that's going on.</p> <p>25 So my memory is not the best in the world.</p>	<p style="text-align: right;">Page 272</p> <p>1 A No.</p> <p>2 Q McKesson Corporation?</p> <p>3 A Maybe. I don't know, we have gloves from</p> <p>4 McKesson. I don't know if that's the same company</p> <p>5 or not.</p> <p>6 Q If you did hear of them, did you know of</p> <p>7 them as a distributor?</p> <p>8 A No.</p> <p>9 Q And Cardinal Drug?</p> <p>10 A No.</p> <p>11 Q Endo?</p> <p>12 A No.</p> <p>13 Q Prescription Supply Incorporated?</p> <p>14 A No.</p> <p>15 Q HBC Service Company?</p> <p>16 A No.</p> <p>17 Q HD Smith?</p> <p>18 A No.</p> <p>19 Q So I take it correctly that you don't have</p> <p>20 any personal or professional information or</p> <p>21 complaint of any kind about any of those defendants</p> <p>22 that I have just named for you or any suggestion</p> <p>23 that any of them might have any responsibility with</p> <p>24 respect to the so-called opioid epidemic?</p> <p>25 MR. GALLUCCI: Objection to form and</p>
<p style="text-align: right;">Page 271</p> <p>1 A Okay.</p> <p>2 Q So let me know if you think you have</p> <p>3 already answered the question and I will probably</p> <p>4 accede to that request and I will withdraw it, okay?</p> <p>5 A Okay.</p> <p>6 Q You read the complaint, I think, or you</p> <p>7 looked at the complaint in this case?</p> <p>8 A I definitely looked at it.</p> <p>9 Q You read the name, the names of the</p> <p>10 defendants?</p> <p>11 A I did.</p> <p>12 Q In the case?</p> <p>13 MR. GALLUCCI: I will state an objection.</p> <p>14 I don't think that was the testimony. There is a</p> <p>15 distinction between the complaint and list of</p> <p>16 defendants.</p> <p>17 Q (Mr. Emch) You have read or seen a list</p> <p>18 of the defendants, the name of the defendants in the</p> <p>19 case?</p> <p>20 A I have.</p> <p>21 Q I will just mention the ones that our drug</p> <p>22 distributors, okay?</p> <p>23 A Okay.</p> <p>24 Q AmerisourceBergen Drug Corporation, you</p> <p>25 ever hear of them?</p>	<p style="text-align: right;">Page 273</p> <p>1 foundation, outside the scope.</p> <p>2 A I don't understand what those companies</p> <p>3 do, so I don't have an opinion right now on whether</p> <p>4 or not they played a part in any of this.</p> <p>5 Q (Mr. Emch) Have you ever, to your</p> <p>6 recollection, either heard a discussion in a meeting</p> <p>7 or seen a report from any of the various agencies</p> <p>8 around the state or any the county that have been</p> <p>9 addressing this issue over the past many years or</p> <p>10 been any conversations with Dr. Gilson or others in</p> <p>11 connection with committees you may have served on or</p> <p>12 anything else that suggested that any of these</p> <p>13 distributor defendants had responsibility for the</p> <p>14 opioid epidemic?</p> <p>15 A I do not know.</p> <p>16 Q Do you remember any?</p> <p>17 A Right now, I do not remember any.</p> <p>18 Q I will also skip around.</p> <p>19 A Okay.</p> <p>20 Q A little bit. Your soiree into the world</p> <p>21 of OARRS, was that at the request, I think, of</p> <p>22 Dr. Gilson; is that right?</p> <p>23 A Yes.</p> <p>24 Q What hoops did you have to jump through in</p> <p>25 order to get access to OARRS, do you understand my</p>

<p style="text-align: right;">Page 274</p> <p>1 question? I'm using a technical term, what hoops 2 did you have to jump through?</p> <p>3 A Um, there were hoops, I don't remember all 4 of them. I know Dr. Gilson made an account, but I 5 believe that he was not able to request the reports 6 and then himself, give himself access. So I needed 7 to have an account so I could be the person to 8 requests the reports and then I believe he would 9 give the okay that I could have those.</p> <p>10 Q Did you deal with people at the board of 11 pharmacy yourself in order to get access?</p> <p>12 A No.</p> <p>13 Q Did anyone place any limitations on you, 14 for example, did they say to you, make any limits on 15 whose records you could look up or anything?</p> <p>16 A Yes. We were only allowed to look up the 17 cases that were involved with our Poison Death 18 Review Committee. So we get a list each month of 19 the decedent from the prior month, or whatever the 20 time frame was, and those were the ones I was 21 allowed to look up. I was not allowed to look up 22 other decedents or people in general.</p> <p>23 Q So those were all drug overdose or drug 24 poisoning death cases?</p> <p>25 A Yes.</p>	<p style="text-align: right;">Page 276</p> <p>1 additional equipment?</p> <p>2 A Yes.</p> <p>3 Q That your office has gotten that you are 4 aware of.</p> <p>5 I think I heard you say that those 6 additions occurred around the 2015 and forward time 7 frame; is that right?</p> <p>8 A Yes.</p> <p>9 Q And do you agree that all of those or do 10 you attributable those additions, the additional 11 staff, the additional equipment, et cetera, do you 12 attribute that to added caseload as far as drug 13 poisoning deaths are concerned?</p> <p>14 A I do.</p> <p>15 Q Do you agree that all of the added 16 caseload, the entire added caseload that we're 17 talking about that caused these increases are due to 18 heroin, cocaine, carfentanil and the Fentanyl 19 analogues that came into play in 2014 and 2015?</p> <p>20 A I can't say with certainty that all of 21 them are, but a majority of them, yes.</p> <p>22 Q Let's look, you will have to help me with 23 the number because I don't have the number on this 24 sheet. Will you go back to that, to the page with 25 the most commonly found drugs?</p>
<p style="text-align: right;">Page 275</p> <p>1 Q All right. And you were doing this, for 2 lack of better terminology retrospectively, right?</p> <p>3 These cases were all autopsy and basically closed 4 cases. And so you went back a year or so and picked 5 up and looked at each of those individual death 6 cases?</p> <p>7 A I don't believe that they were closed 8 cases. There might have been more than a month lag, 9 but the way I'm remembering it is that we would 10 discuss the cases from the month prior. So the 11 toxicology, or some of the toxicology would be 12 performed. I don't believe all the toxicology was 13 necessarily finished on all of those cases and so 14 then the cases would not have been completed.</p> <p>15 Q So you did this over a long period of 16 time?</p> <p>17 A We did it over a period of one year.</p> <p>18 Q All right. And I believe you testified, I 19 just want to confirm, do you have any knowledge as 20 to whether or not the forensic pathologist in your 21 office routinely accessed OARRS?</p> <p>22 A I do not know that.</p> <p>23 Q You testified, again, correct me if I've 24 got this wrong, but my understanding is you 25 testified about some additional staffing and some</p>	<p style="text-align: right;">Page 277</p> <p>1 A Exhibit 14.</p> <p>2 Q Exhibit 14. And the most common drugs, do 3 you see that?</p> <p>4 A Yes.</p> <p>5 Q All right. If you are go back to 2010, 6 you see the brown line that is all opioids, not 7 including Fentanyl?</p> <p>8 A Yes.</p> <p>9 Q You see that one?</p> <p>10 A Yeah.</p> <p>11 Q What's the high point, what's the most?</p> <p>12 A For 2010 you said or for all?</p> <p>13 Q I'm looking for the whole line. What's 14 the highest number there, what year?</p> <p>15 A Oh, sorry, okay. You are asking the 16 either highest line in the year 2010.</p> <p>17 Q It is 113, right?</p> <p>18 A I am not seeing where you are looking. I 19 see 113 in 2011.</p> <p>20 Q Right, 2011. That's the highest point for 21 all opioids?</p> <p>22 A Yes.</p> <p>23 Q You agree with me that every increase, I 24 mean, after 2011, the all opioid line is fewer than 25 113, isn't it?</p>

<p style="text-align: right;">Page 278</p> <p>1 A Yes. 2 Q No caseload increase after 2011 attributed 3 to all opioids, except for Fentanyl -- 4 MR. GALLUCCI: All opioids, not including 5 Fentanyl confirmation. 6 Q (Mr. Emch) Right. 7 A Yes. 8 Q And every number that indicates an 9 increase after 2011 is either heroin, cocaine, 10 carfentanil or again, Fentanyl showing up in 2014 11 and 2015 when the analogues came on the scene? 12 A Yes. 13 Q So, again, you agree with me that the 14 increases in the caseload and the need for the 15 additional staffing and equipment since 2011, 16 occurring in 2014 and 2015, is all because of 17 increased deaths due to heroin, cocaine, 18 carfentanil, Fentanyl analogues? 19 MR. GALLUCCI: Objection to form, 20 foundation, misrepresents prior testimony. 21 A Um, I agree that those all increased and 22 caused the increase in the cases that we've had in 23 our office. 24 Q (Mr. Emch) I want to ask a few questions 25 about going back to, help me understand how, a</p>	<p style="text-align: right;">Page 280</p> <p>1 Q Okay. Now, if I understand the process 2 correctly, the forensic pathologist who is on a 3 particular case will fill out a little form that 4 comes to toxicology that says what he or she wants 5 done as far as the testing is concerned? 6 A Yes. 7 Q Is it a form? 8 A It is a form. 9 Q Is that form or does that form become a 10 part of the toxicology report? 11 A That form will not show up as part of the 12 report other than we indicate on the report all of 13 the specimens that we received. So that's the only 14 overlap between those two documents. 15 Q So if we wanted to see for a particular 16 case what the pathologist involved actually 17 requested originally be done, we would have to see 18 the form? 19 A Yes. 20 Q I mean, we can't define that from looking 21 at the toxicology report; is that right? 22 A No. 23 Q Where does the form exist? 24 A The form is placed into the folder, the 25 case file. So an actual manila folder they are</p>
<p style="text-align: right;">Page 279</p> <p>1 little bit how your office works. I'm not going to 2 spend seven hours on this, on a particular area. So 3 let me start with, do you folks in the toxicology 4 department, do you have any direct involvement in 5 the determination of the cause of death? By that I 6 mean, what actually goes into that space on the 7 death certificate? 8 A Um, we do not. We do not provide the 9 cause of death if that's what you are asking. 10 Q Do you talk with the pathologist about 11 that, do you get with them at any point or do they 12 come to you and say, here is the toxicology report, 13 let's talk about what I should put in for the cause 14 of death. 15 A The chief toxicologist does. 16 Q That's part of my question. You, as a Tox 17 III don't do that. You submit your stuff to the 18 chief toxicologist and he or she does that? 19 A Yes. 20 Q Has that been the routine ever since you 21 came back in 2010? 22 A Um, I would say the supervisor or the 23 chief toxicologist is the one that will speak with 24 the pathologist. Except for when we did not have a 25 chief toxicologist.</p>	<p style="text-align: right;">Page 281</p> <p>1 placed in. 2 Q Is that something, if you know, that would 3 be considered a part of the autopsy report? 4 A I do not believe that that is a part of 5 the autopsy report. 6 Q Does it go into the Pathways computer, the 7 form or the program sorry? 8 A For these cases it is scanned into there, 9 but for our, for our medical examiner cases, we have 10 not scanned those in yet. 11 Q So, again, the place that we would need to 12 go if we wanted to see the form would be the paper 13 individual files? 14 A Yes. 15 Q Okay. Now, we talked a lot about the 16 assays that are done. If I understand just very 17 generally, correctly, you go in first to sort of get 18 a yes or no. It is there or it is not. And then 19 you go forward based upon the needs or desires of 20 the pathologist to be more specific and find out by 21 quantifying the individual drugs that are positive? 22 A No, um, they request the testing up front 23 and we will run our screens and then based on what 24 the screens determine, we move forward with 25 confirmation testing based off of that. The only</p>

<p style="text-align: right;">Page 282</p> <p>1 time we really need to consult the pathologist would 2 be if we don't have sufficient sample to do all of 3 the testing that we need to for confirmations, then 4 we might ask them to prioritize what testing they 5 would like done. Um, or if we detect in one of our 6 screens an analyte that we cannot quantitate 7 in-house, then we could discuss with them whether or 8 not that needs to be sent out for quantitation.</p> <p>9 Q So when the pathologist, for example, says 10 do the comprehensive screen?</p> <p>11 A Yes.</p> <p>12 Q All right. Then you automatically know 13 you are going to do the comprehensive screen. You 14 are going to check for whether it is there and you 15 are going to quantify it if it is there?</p> <p>16 A Yes.</p> <p>17 Q You will also quantify, look for and 18 quantify additional items that are on the 19 comprehensive test if the pathologist request it?</p> <p>20 A Yes.</p> <p>21 Q We talked, well, let me ask you this. In 22 your experience with the medical examiner's office 23 in Cuyahoga County, would you agree with me that the 24 majority of the cases that you do toxicology reports 25 on, involve multiple drugs, rather than a single</p>	<p style="text-align: right;">Page 284</p> <p>1 finished what you are doing and you have quantified 2 all of the drugs that you have found. Is there a 3 hurdle that you have to jump over before you put 4 them in a report? When you talked about a report, 5 you talked about, am I correct, the initial tox 6 report that you do that you give to the chief 7 toxicologist, is that a correct understanding of the 8 report?</p> <p>9 A When I talk about a report, I'm talking 10 about the actual final toxicology report which is 11 generated typically by the chief. So that has all 12 of the results from all the testing that has been 13 completed.</p> <p>14 Q All right. Let me break that a little bit 15 of what you just said if I understood. So the 16 report, when you talked about it in your testimony 17 today, when you talk about our report or the report, 18 you mean the final toxicology report?</p> <p>19 A Yes.</p> <p>20 Q And I want to know, again, how that gets 21 developed. You do the testing. And is it just a 22 straight report from you, you test, you find the 23 drug, series of drugs, you quantify the drug as best 24 you can and you give all of that to the chief 25 toxicologist?</p>
<p style="text-align: right;">Page 283</p> <p>1 drug?</p> <p>2 A I do not know the statistics on that.</p> <p>3 Q How would you characterize the answer to 4 the question, how many or what percentage or what 5 proportions of what you see as far as you're aware 6 of as far as the toxicology testing and the results 7 of those tests involve multiple drugs?</p> <p>8 A I'm sorry, can you reask?</p> <p>9 Q How would you characterize, I ask the 10 question by saying majority. Is it a lot, is it a 11 bunch, is it more now than before, how would you 12 characterize the number that involve multiple drugs?</p> <p>13 A Are you asking specifically about overdose 14 cases?</p> <p>15 Q Yes.</p> <p>16 A Um, yes, I would say there's a lot. I 17 don't know the percentage so I don't know if it is 18 most of them or not.</p> <p>19 Q I want to go now to sort of the next 20 level. We are talking about what you screen for and 21 what you are looking at, you get results back. You 22 being the Toxicologist III who is doing the testing 23 for a particular case, okay?</p> <p>24 A Yes.</p> <p>25 Q So you get the results back and you have</p>	<p style="text-align: right;">Page 285</p> <p>1 A So it is not just me. I will perform 2 whatever assay I'm, that I might need to do on the 3 case, but everybody, depending on what the case is 4 positive for, there will be a number of different 5 analyst who all provide data from different assays 6 that they run.</p> <p>7 So, for instance, if it was cocaine 8 and Fentanyl and opiates positive on ELISA, I would 9 run the opiate confirmation, Carrie would run the 10 Fentanyl confirmation and maybe Cassandra would run 11 the cocaine confirmation.</p> <p>12 Then we would all individually 13 written up our data for those three specific assays 14 and they have been reviewed by someone else. Then 15 we enter our result in the Pathways. Once all of 16 the results for a case have been entered there is no 17 open testing, then the chief toxicologist can pull 18 that case to review and then generate the final 19 report.</p> <p>20 MR. GALLUCCI: Before we get to the next 21 question. I'd like to object for the record for the 22 time. We have seven hours at this point.</p> <p>23 MR. EMCH: I've never done that.</p> <p>24 THE VIDEOGRAPHER: Let's go off the 25 record.</p>

Page 286	Page 288
1 (Off the record.)	1 there are chromatographic requirements. So that
2 THE VIDEOGRAPHER: On the record 5:32.	2 means the quality of the peak that we are looking
3 Q (Mr. Emch) I don't mean this in a	3 at.
4 pejorative way, from your standpoint as the Tox III,	4 So if it does not meet requirements
5 you're the messenger and you do the screens and the	5 for that, then we won't report it. But normally in
6 testing on the drugs that you find, and you quantify	6 those instances I would run a different matrix to
7 them as best you can and pass that on, you don't	7 try to get that analyte to be able to report it.
8 make any cuts?	8 So if we feel that it is there and I
9 A Um, I don't understand what you are	9 cannot report it due to some sort of chromatographic
10 talking about make any cuts, but yes, everything up	10 interference, I will either repeat that sample or
11 until that point I understood. Yes, that is what	11 run out another sample from that case to try to get
12 happens.	12 that analyte.
13 Q What I mean by cuts, is again, if you	13 Q All right. But does any part of the
14 don't eliminate any drugs because their present only	14 process that you go through involve a determination
15 in a therapeutic level or only at a low level, from	15 by you that the particular substance that you found
16 your perspective given your background and	16 and quantified was there in a sufficient level to
17 knowledge, if they're present and you quantify them,	17 have caused death?
18 they go in what you give to the chief toxicologist?	18 A I'm sorry, can you ask the beginning part
19 A Yes. If they meet the requirements for me	19 of that question again?
20 to report, then that will go into Pathways and that	20 Q Do you make a determination before you
21 is what the chief toxicologist will get.	21 report it up that it is there in a sufficient
22 Q What are the requirements from your	22 quantity to have caused death?
23 perspective then because I want to make this as	23 A I may in my head make that determination,
24 quick as I can. I'm just trying to find out if you	24 but I don't speak to anyone about that. So there
25 eliminate anything that comes up in your testing, if	25 may be a level that I think is extremely high, but
Page 287	Page 289
1 you have ten drugs that you are looking for and you	1 other than saying that to the chief or the
2 find eight of them and you quantify all eight of	2 supervisor that, wow, look at this case, this is
3 them, do all eight of them go to the chief	3 really high. No, I don't. I don't make that
4 toxicologist.	4 determination.
5 A So if I felt that they could be quantitative	5 Q And this is where I was more directed
6 then, yes, they would go to him.	6 towards the ones that would be low or lower than
7 We have a lot of criteria that need	7 rather than extremely high, which is what I meant by
8 to be met to be able to report out these analytes.	8 cut. You don't make a decision, well, this is not
9 For instance, I was saying before we have a	9 high enough to actually cause a death, so I'm going
10 calibration curve. The concentration needs to fall	10 to take it off. You don't do that?
11 somewhere on that curve to be able to give a	11 A No.
12 quantitative value for that analyte.	12 Q Does the chief toxicologist do that?
13 Q So that's, I'm sorry, that's a range,	13 A He can take things off of the report, but
14 right, that's lowest?	14 it would more typically have to do with the
15 A Yes.	15 chromatography. So if he is not happy with how it
16 Q Okay.	16 looks and he doesn't feel like we should put
17 A It also needs to be above the level of	17 ourselves out there and report that.
18 detection that we have established in our validation	18 Q Do you know, well, you had testified, as I
19 procedures, and that is all in our standard	19 recall earlier, about a couple of references that
20 operating procedures.	20 could be used to see what, what literature, what
21 So if the analyte meets all of our	21 indication folks were willing to give about levels
22 chromatographic requirements, but it is at a	22 that were therapeutic, ranges were therapeutic and
23 concentration less than our LOD, we cannot report	23 ranges that were lethal.
24 those.	24 Do you remember that?
25 In addition to the concentrations,	25 A Yes.

<p style="text-align: right;">Page 290</p> <p>1 Q You mentioned a North Carolina thing?</p> <p>2 A Yes.</p> <p>3 Q Is there a name for that so we can find</p> <p>4 it?</p> <p>5 A It is on their website. I don't know what</p> <p>6 the specific name is, but neutral test have a link</p> <p>7 to a PDF file that they've created and I'm not sure</p> <p>8 if they have on there where they got these ranges</p> <p>9 from or not.</p> <p>10 Q Where is it, what's the website?</p> <p>11 A It is on the website for the medical</p> <p>12 examiner's office for the State of North Carolina.</p> <p>13 Q All right, okay. It is sort of a chart or</p> <p>14 a spreadsheet of drugs?</p> <p>15 A Yeah. If I recall you would click on the</p> <p>16 toxicology link and it would be located on their</p> <p>17 page.</p> <p>18 Q Did I hear you mention a second one, was</p> <p>19 the Basalt?</p> <p>20 A Yes.</p> <p>21 Q Does your office rely upon Basalt?</p> <p>22 A Yes.</p> <p>23 Q The 11th Edition?</p> <p>24 A I don't know what edition we are on right</p> <p>25 now.</p>	<p style="text-align: right;">Page 292</p> <p>1 drugs are associated with or related to death. If</p> <p>2 you look at Exhibit 8. Your little charts that are</p> <p>3 Exhibit 8. There are a couple of charts that occur.</p> <p>4 They use associated with.</p> <p>5 A Yes, I see that.</p> <p>6 Q I mean, and I think you said that when</p> <p>7 those stats are pulled, when those indications are</p> <p>8 pulled that associate, you're going to come up with</p> <p>9 a larger number than the total number of deaths for</p> <p>10 that year because they are going to be counted</p> <p>11 multiple times if multiple drugs were involved,</p> <p>12 right?</p> <p>13 A Yes.</p> <p>14 Q You mentioned a personal experience that</p> <p>15 has impacted your thoughts about opioid and opioid</p> <p>16 overdose deaths, that being your uncle?</p> <p>17 A Yes.</p> <p>18 Q Do you have any other personal experiences</p> <p>19 yourself related to prescription opioid medications</p> <p>20 that influence your thoughts or feelings about that?</p> <p>21 MR. GALLUCCI: Objection, beyond the</p> <p>22 scope.</p> <p>23 A I'm not sure that I understand the</p> <p>24 question.</p> <p>25 Q (Mr. Emch) Have you ever been prescribed</p>
<p style="text-align: right;">Page 291</p> <p>1 Q All right. Now, do you know what process</p> <p>2 the chief toxicologist goes through, him or herself,</p> <p>3 or in conjunction with the pathologist involved to</p> <p>4 make a determination about what drugs that are on</p> <p>5 the toxicologist report might be implicated in the</p> <p>6 cause of death?</p> <p>7 A I do not know that.</p> <p>8 Q All right. Do you know if, then I assume</p> <p>9 you don't, but I will ask, do you know if a</p> <p>10 determination is made by the chief toxicologist and</p> <p>11 the pathologist that each drug that is listed as</p> <p>12 cause of death alone was sufficient in quantity to</p> <p>13 have caused the death by itself?</p> <p>14 A Can you reask that?</p> <p>15 Q Do you know whether or not the chief</p> <p>16 toxicologist and the pathologist, either alone or in</p> <p>17 consultation with each other, make a determination</p> <p>18 with respect to each drug that is listed in the</p> <p>19 cause of death, that that particular drug in its</p> <p>20 quantity that was found alone without the others</p> <p>21 could have caused the death?</p> <p>22 A I do not know if that's how they go</p> <p>23 through the report.</p> <p>24 Q In getting the statistics that we talked</p> <p>25 about, I usually see, usually see the phrase, these</p>	<p style="text-align: right;">Page 293</p> <p>1 opioids yourself?</p> <p>2 A I have.</p> <p>3 MR. GALLUCCI: Objection.</p> <p>4 Q (Mr. Emch) Have you taken them?</p> <p>5 MR. GALLUCCI: Objection.</p> <p>6 A Yes.</p> <p>7 Q (Mr. Emch) Did you take them in</p> <p>8 accordance with the instructions and the limitations</p> <p>9 that were placed on you by your doctor?</p> <p>10 MR. GALLUCCI: Objection, have a</p> <p>11 continuing objection on all questions related to her</p> <p>12 own prescriptions. Yes?</p> <p>13 MR. EMCH: I'm sorry?</p> <p>14 MR. GALLUCCI: Can we get a continuing</p> <p>15 objection to your question.</p> <p>16 MR. EMCH: Yes, absolutely.</p> <p>17 A What was the last question? If I used</p> <p>18 them as they were prescribed?</p> <p>19 Q (Mr. Emch) Yes.</p> <p>20 A Yes.</p> <p>21 Q Do you have any friends or family members</p> <p>22 or have you, yourself taken prescription opioids</p> <p>23 over a long period of time because of chronic pain?</p> <p>24 A No.</p> <p>25 Q So you don't have anybody in your family</p>

Page 294	Page 296
<p>1 or any close friends who have done that?</p> <p>2 A Um, I don't know if they have or not.</p> <p>3 Q All right. Now, do you have any other</p> <p>4 personal experience, other than your uncle, I guess</p> <p>5 is the way I put it?</p> <p>6 A Um, we had a family friend who overdosed</p> <p>7 on heroin and also my sister-in-law's ex-boyfriend</p> <p>8 overdosed on heroin. I think that's all of my</p> <p>9 experiences with that.</p> <p>10 Q And do you know anything about the history</p> <p>11 of those two?</p> <p>12 A Um, the family friend I don't know any of</p> <p>13 the history. Of my sister-in-law's ex-boyfriend, I</p> <p>14 do know that he was abusing prescription painkillers</p> <p>15 before he moved on to heroin. That's all I know</p> <p>16 though. I don't know his prescribing history or</p> <p>17 anything like that.</p> <p>18 Q How do you know that?</p> <p>19 A How do I know that he was using</p> <p>20 prescription opioids.</p> <p>21 Q Uh-huh.</p> <p>22 A From my sister-in-law.</p> <p>23 Q I'm sorry?</p> <p>24 A From my sister-in-law.</p> <p>25 Q Did he abuse other drugs too?</p>	<p>1 State of Ohio</p> <p>2 SS.</p> <p>3 County of Cuyahoga</p> <p>4 I, Randy R. Dunn, a Licensed Certified Court</p> <p>5 Reporter by the Supreme Court in and for the State</p> <p>6 of Missouri, duly commissioned, qualified and</p> <p>7 authorized to administer oaths and to certify to</p> <p>8 depositions, do hereby certify that pursuant to</p> <p>9 Notice in the civil cause now pending and</p> <p>10 undetermined in the Federal District Court, State of</p> <p>11 Ohio, to be used in the trial of said cause in said</p> <p>12 court, I was attended at the offices of Kelley &</p> <p>13 Ferraro, 950 Main Street, in the City of Cleveland,</p> <p>14 State of Missouri, by the aforesaid attorneys; on</p> <p>15 the 15th day of January, 2019.</p> <p>16 The said witness, being of sound mind and being</p> <p>17 by me first carefully examined and duly cautioned</p> <p>18 and sworn to testify the truth, the whole truth, and</p> <p>19 nothing but the truth in the case aforesaid,</p> <p>20 thereupon testified as is shown in the foregoing</p> <p>21 transcript, said testimony being by me reported in</p> <p>22 shorthand and caused to be transcribed into</p> <p>23 typewriting, and that the foregoing page correctly</p> <p>24 set forth the testimony of the aforementioned</p> <p>25 witness, together with the questions propounded by</p>
Page 295	Page 297
<p>1 A Um, I think so.</p> <p>2 Q Did he abuse alcohol?</p> <p>3 A I don't know.</p> <p>4 Q Marijuana?</p> <p>5 A I don't know.</p> <p>6 Q Cocaine?</p> <p>7 A I think that he had used cocaine.</p> <p>8 Q Okay. So those three personal</p> <p>9 experiences?</p> <p>10 A Yes.</p> <p>11 MR. EMCH: I think that's all I have.</p> <p>12 MR. RICE: No questions for me.</p> <p>13 MR. GALLUCCI: No questions here.</p> <p>14 THE VIDEOGRAPHER: Off the record at 5:44.</p> <p>15 (End of video deposition.)</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p>1 counsel and remarks and objections of counsel</p> <p>2 thereto, and is in all respects a full, true,</p> <p>3 correct and complete transcript of the questions</p> <p>4 propounded to and the answers given by said witness.</p> <p>5 I further certify that I am not of counsel or</p> <p>6 attorney for either of the parties to said suit, not</p> <p>7 related to nor interested in any of the parties or</p> <p>8 the</p> <p>9</p> <p>10</p> <p>11</p> <p>12 Randy R. Dunn RPR, CRR, CCR No. 193</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>

<p style="text-align: right;">Page 298</p> <p>1 Veritext Legal Solutions 2 1100 Superior Ave 3 Suite 1820 4 Cleveland, Ohio 44114 5 Phone: 216-523-1313</p> <p>6 January 18, 2019</p> <p>7 To: Anthony Gallucci, Esq.</p> <p>8 Case Name: In Re: National Prescription Opiate Litigation</p> <p>9 Veritext Reference Number: 3191878</p> <p>10 Witness: Claire Kaspar Deposition Date: 1/15/2019</p> <p>11 Dear Sir/Madam:</p> <p>12 The deposition transcript taken in the above-referenced 13 matter, with the reading and signing having not been 14 expressly waived, has been completed and is available 15 for review and signature. Please call our office to 16 make arrangements for a convenient location to 17 accomplish this or if you prefer a certified transcript 18 can be purchased.</p> <p>19 If the errata is not returned within thirty days of your 20 receipt of this letter, the reading and signing will be 21 deemed waived.</p> <p>22 Sincerely,</p> <p>23 Production Department</p> <p>24 NO NOTARY REQUIRED IN CA</p>	<p style="text-align: right;">Page 300</p> <p>1 DEPOSITION REVIEW 2 CERTIFICATION OF WITNESS</p> <p>3 ASSIGNMENT REFERENCE NO: 3191878</p> <p>4 CASE NAME: In Re: National Prescription Opiate Litigation</p> <p>5 DATE OF DEPOSITION: 1/15/2019</p> <p>6 WITNESS' NAME: Claire Kaspar</p> <p>7 In accordance with the Rules of Civil 8 Procedure, I have read the entire transcript of 9 my testimony or it has been read to me.</p> <p>10 I have listed my changes on the attached 11 Errata Sheet, listing page and line numbers as 12 well as the reason(s) for the change(s).</p> <p>13 I request that these changes be entered 14 as part of the record of my testimony.</p> <p>15 I have executed the Errata Sheet, as well 16 as this Certificate, and request and authorize 17 that both be appended to the transcript of my 18 testimony and be incorporated therein.</p> <p>19 _____ 20 Date Claire Kaspar</p> <p>21 _____ 22 Sworn to and subscribed before me, a 23 Notary Public in and for the State and County, 24 the referenced witness did personally appear 25 and acknowledge that:</p> <p>26 _____ 27 They have read the transcript; 28 They have listed all of their corrections 29 in the appended Errata Sheet; 30 They signed the foregoing Sworn 31 Statement; and 32 Their execution of this Statement is of 33 their free act and deed.</p> <p>34 I have affixed my name and official seal 35 this _____ day of _____, 20 _____. 36 _____ 37 Notary Public</p> <p>38 _____ 39 Commission Expiration Date</p>
<p style="text-align: right;">Page 299</p> <p>1 DEPOSITION REVIEW 2 CERTIFICATION OF WITNESS</p> <p>3 ASSIGNMENT REFERENCE NO: 3191878</p> <p>4 CASE NAME: In Re: National Prescription Opiate Litigation</p> <p>5 DATE OF DEPOSITION: 1/15/2019</p> <p>6 WITNESS' NAME: Claire Kaspar</p> <p>7 In accordance with the Rules of Civil 8 Procedure, I have read the entire transcript of 9 my testimony or it has been read to me.</p> <p>10 I have made no changes to the testimony 11 as transcribed by the court reporter.</p> <p>12 _____ 13 Date Claire Kaspar</p> <p>14 _____ 15 Sworn to and subscribed before me, a 16 Notary Public in and for the State and County, 17 the referenced witness did personally appear 18 and acknowledge that:</p> <p>19 _____ 20 They have read the transcript; 21 They signed the foregoing Sworn 22 Statement; and 23 Their execution of this Statement is of 24 their free act and deed.</p> <p>25 _____ 26 I have affixed my name and official seal 27 this _____ day of _____, 20 _____. 28 _____ 29 Notary Public</p> <p>30 _____ 31 Commission Expiration Date</p>	<p style="text-align: right;">Page 301</p> <p>1 ERRATA SHEET 2 VERITEXT LEGAL SOLUTIONS MIDWEST</p> <p>3 ASSIGNMENT NO: 1/15/2019</p> <p>4 PAGE/LINE(S) / CHANGE /REASON</p> <p>5 _____ 6 _____ 7 _____ 8 _____ 9 _____ 10 _____ 11 _____ 12 _____ 13 _____ 14 _____ 15 _____ 16 _____ 17 _____ 18 _____ 19 _____ 20 Date Claire Kaspar</p> <p>21 _____ 22 SUBSCRIBED AND SWORN TO BEFORE ME THIS _____ 23 DAY OF _____, 20 _____. 24 _____ 25 Notary Public</p> <p>26 _____ 27 Commission Expiration Date</p>

[& - 2016]

Page 1

&	14 4:24 200:1,4 277:1,2 14th 43:13 194:13 15 1:19 5:2 25:8 55:2,4 126:18,19 127:2 130:11 175:2 210:3,6 151 4:12 158 4:13 15th 6:3 184:17,20 16 5:3 213:8,11 229:14 160 163:15 165:1 166:15,20 1600 3:5 161 4:15 174:18 176:2,21 203:17 16514 297:11 17 1:3 5:4 217:10 217:13 173 4:17 176 145:6 18 1:9 5:5 126:3 221:9,12 298:4 1820 298:2 184 4:19 203:24 187 4:20 19 5:8 160:12 175:3 254:21,24 191 4:21 205:15 193 297:12 194 4:22 196 4:23 2 2 4:9 43:6,9 93:11 96:13 248:23 2,500 48:15 20 299:16 300:22 301:22	200 2:6 4:24 200,000 248:25 20001 3:20 2003 15:17 2004 16:3,25 17:1 17:2,17 18:2 60:10 75:3 2005 16:9,24 2006 9:23 47:19,23 47:24 137:3,5,25 141:21 144:6,9 200:21 201:18 2007 17:17,20 18:2 2008 137:25 2009 137:25 2010 17:21,23 2011 9:23 19:14 33:17 137:3,5 138:1 141:21 143:9 144:10 157:11 186:12 187:1 203:14 2012 117:13 144:10 145:17,20 147:8,10,14 157:9 158:25 159:22 160:6,11 161:6,25 162:10 163:11,14 163:23 164:17,23 165:25 166:8 174:18 175:12	176:2,21 177:8,12 177:16 194:7 203:17 255:2,22 2013 4:14,16 145:19 147:10 152:14 158:14 162:7,17 177:10 177:14 184:17,20 191:16 192:2,9 193:25 194:5,6 197:4,16 199:5 222:8,23 261:20 2014 10:24,25,25 37:6 42:25 43:1 80:16 173:24 174:5 180:12 191:13 193:21 194:2 196:15 210:16 212:22 222:9,23 250:19 256:24 276:19 278:10,16 2014-01108 210:20 2015 20:16 21:3 22:8 31:20 33:19 36:12 80:17 81:17 82:2 104:21 130:16 132:13 194:13 201:20,23 202:8,13,20 203:19,24 205:3 205:10,24 229:6 254:5,12 276:6,19 278:11,16 2016 31:20 33:14 33:15,17,20 76:19 76:23 104:21,21 104:25 187:9 200:20 201:23 202:9,13,20 203:1
---	---	--	--

[2016 - 9:04]

Page 2

203:20,25 205:3	27.97 186:18	43 4:9	601 3:19
205:10,13 206:11	270 4:6	43215 2:13	614 2:14
206:18 213:12	27th 117:13	44113 1:25 3:13	64 163:17 164:2,6
215:7 216:13	216:11 255:2	44114 298:2	169:4,10,18
223:13 229:7,16	2804 1:2,3	44116 2:7	666 202:2 206:15
250:21	29 175:3 188:11	44141 14:18	206:17,20
2017 36:19,24 37:3	292 186:12	45004 1:9	678 189:18
131:11 188:5	296 157:11,16	46 166:16,17	696-3670 3:14
200:6,21 201:18	29th 191:13	46.875 165:5	698-3500 2:21
205:13 217:6,7	2:17 187:19	469-3939 2:14	7
241:10 250:21	2:46 187:21	492 206:8	7 4:4,15 161:12,15
256:24	2nd 59:1 71:22	4:41 256:18	177:18,20
2018 36:10,21,25	72:1	4:51 256:20	70 186:15 216:2,4
81:18 82:2 217:6	3	4th 230:8	702 48:7
217:8,8,15			712 189:18
2019 1:19 6:3	3 4:10 117:5,8	5	712-7452 2:8
296:15 298:4	131:25	5 4:12 151:3,6	74 164:21 219:22
202 3:21	3,000 48:2	50 65:22 165:4	220:3
20525 2:6	3,500 48:2,3	166:9	75 164:11 165:1
210 5:2	3,563 47:20	500 3:5 48:16	166:15 170:3
212 2:21	304 3:7	500,000 249:5	171:2
213 5:3	3191878 298:7	52 144:9	77 145:3
216 2:8 3:14	299:2 300:2	53 160:24	79 161:8
216-523-1313	31st 213:12 229:16	56 205:11,14 229:7	8
298:3	32 177:1 218:18	5:32 286:2	8 4:17 173:14,17
217 5:4	219:25	5:44 295:14	175:3 177:17
22,600 48:3	320 203:25	5th 188:5	292:2,3
22,658 47:21	325 2:12		9
221 5:5	34 157:21	6 4:13 10:2 69:11	9 4:19 184:13,16
22nd 216:1,11,13	340-1172 3:7	111:17 119:8,9,9	90s 184:5
24 4:8 175:2	36 119:10 163:22	119:10,11,21,25	92 202:25
25 175:3	370 202:1	120:6,8,12,16,23	94 157:19
25301 3:6	399 202:25	121:6,12,17,24	942-6840 3:21
254 5:8	3:42 225:16	122:10,14,15	950 1:23 3:12
259 4:5	3:59 225:18	123:16 133:8	296:13
25th 161:16	3rd 210:16	135:16,25 137:15	98 189:19
162:15		138:3 142:2,3,13	9817 14:17
26 164:15,18	4 4:11 139:15,18	158:9,12 241:4,8	9:04 6:3
217:15	40 174:18 175:24	241:12	
26th 158:14	400 48:18	600 2:12	

a			
a.l. 3:3	178:2 182:23	accomplishments	187:12 243:21
aaaron 1:4	216:2,9,15 222:10	264:19	245:5 246:21
abbreviated	222:24 227:6	account 144:15	261:12 280:25
217:23	248:8 268:16	240:2,6 274:4,7	284:10
abbreviation	269:5,9 294:25	accurate 17:11	ada 154:13
119:9	295:2	51:10 55:25 98:3	adamhs 147:1
abbreviations	abused 168:16,23	98:12 118:24	154:13
188:10,24 189:2	169:11 247:15,19	142:5,10 158:14	add 68:3 74:12
ability 9:7 26:9	abusing 294:14	165:7,8 166:10	79:18 80:14 81:3
39:4 71:3 181:3	academy 153:17	181:2 201:12	87:11 111:20
217:20	174:4	206:2,3 212:7	115:13 124:23,24
able 20:4 22:23	accede 271:4	accurately 198:3	126:1 128:5 215:4
27:9 35:15 36:7,8	accept 39:4	211:5	216:5,8,16,23
39:9 40:5 41:14	acceptable 101:5	acetaminophen	219:9 220:3
46:6 51:18 68:21	110:15	35:1 126:1,8	248:12,16
70:12 80:5,7	accepted 172:20	128:19,20,22	added 25:9 51:4
81:11,13 84:25	accepting 112:20	129:9,17,18 130:2	55:17 110:4,5,8,11
87:9 96:16 108:11	access 68:17	130:3	115:16,18 130:12
117:18 133:8	162:11,18,21,24	acetone 126:13	130:13,13 191:1
143:3 148:9 163:4	163:3,5 198:11	acetyl 214:6	206:12 214:9,18
165:23 182:17	236:14,17 238:6	acetylmorphine	216:5 219:13,24
209:4 212:13	240:5,7,10 242:5,7	10:2 28:13,20	252:18 253:11
228:1 229:1	261:14 264:22,25	69:11 111:17	276:12,15,16
236:18 242:9	273:25 274:6,11	120:16,18 135:25	addict 179:7
246:1 248:21	accessed 275:21	137:15 138:3	addicted 114:18
258:2 262:5,13	accession 50:22	241:12	114:23 115:5
274:5 287:8,11	88:15	acidic 128:3	150:9 170:18
288:7	accessioned 90:6	130:20 131:1,8	178:11 184:5
abnormalities	accessioning 50:3	acidity 131:5	addiction 32:4,7
94:4	50:5 51:5,7 88:19	acknowledge	32:19 114:25
absence 46:15	89:22 107:19	299:11 300:16	146:11,11 170:15
47:3 180:19	108:18,23 109:2	act 45:11 70:16	183:16
absolute 111:18	115:24 116:1,2,16	150:17 299:14	addictive 113:18
absolutely 98:13	116:17 247:6	300:20	addicts 148:13,24
113:23 213:23	accident 106:16	actions 234:9	adding 131:8
293:16	168:4	247:7	209:15 214:22
abstract 174:14	accidental 44:10	activity 208:11	229:10
abuse 47:5 74:4,10	45:3 106:4 178:1	actual 55:21 70:7	addition 70:13
79:16,17 113:15	178:5	99:14 101:4	82:6 89:19 224:18
113:18 171:4	accomplish 298:16	123:23 129:13	249:15 287:25
		142:8 166:15	

[additional - answer]

Page 4

additional 115:14 124:23 208:14,19 208:24 215:14 248:14,15 251:9 251:22 252:15,17 252:18,19 253:10 275:25 276:1,10 276:11 278:15 282:18 additions 25:2 276:6,10 address 14:16 67:7 117:9 addressed 117:10 149:17 168:25 addressing 5:6 221:20 273:9 adequate 224:2 257:16 administer 296:7 administered 160:12,18 administration 159:18 administrative 25:16 26:15,18,20 26:21 27:9,16 42:20 admission 88:18 admit 163:20 adopted 150:15 ads 265:24 advance 270:22 advertising 32:12 affixed 299:15 300:21 aforementioned 296:24 aforesaid 7:4 296:14,19	afternoon 259:11 age 7:2 agencies 146:3 273:7 agenda 152:10 ages 175:3 ago 251:20 253:25 254:1,2,3 agree 24:6 78:16 85:6 97:4,19 98:5 98:10 113:6 140:14 179:14 187:13 222:12 223:1 247:24,25 276:9,15 277:23 278:13,21 282:23 agreed 199:12 agreeing 223:10 ahead 98:8 aide 50:4 al 1:8,9 6:14 alarming 29:19 137:7,10 141:10 alcohol 15:22 16:4 247:14 295:2 allegations 233:10 259:17 allen 153:15 172:9 173:5 232:6 allocate 224:2 allocating 219:13 allow 121:16 136:2 allowed 101:1 227:9 248:22 249:7,25 250:3 257:1,8,19,22 aloud 222:6 amanda 18:10 amein 35:5 100:12 ameins 249:13,16	americas 2:19 amerisourceberg... 3:8 6:15 271:24 amiens 249:10 amount 36:10 61:17 65:23,25 99:2 100:17 129:4 135:23 171:25 194:22 211:3 212:22 220:12 262:12 amounts 99:10 219:20 amphetamine 127:8 ams 123:16 analogs 218:25 223:15 analogue 62:10 82:3,4,9 115:16 207:13 208:2 209:6,23 214:3 226:1 249:23 analogues 61:24 62:7 82:7,13 allegations 233:10 259:17 allen 153:15 172:9 173:5 232:6 allocate 224:2 allocating 219:13 allow 121:16 136:2 allowed 101:1 227:9 248:22 249:7,25 250:3 257:1,8,19,22 aloud 222:6 amanda 18:10 amein 35:5 100:12 ameins 249:13,16	168:10 175:8 193:21 223:22 224:6 225:2 227:8 227:11 234:8 241:2 242:20 analyst 84:10 100:22 248:14,15 251:22 252:7,21 253:3,11 285:5 analysts 15:9 20:2 58:8 70:25 71:1 85:20 analyte 41:14 84:23 85:1,9 87:7 98:24 110:23 ams 123:16 111:10,21 282:6 287:12,21 288:7 288:12 analytes 81:25 82:21 84:23,24 108:9 115:17,18 119:22 128:15 130:25 287:8 analytical 49:5 63:11 analyze 247:23 analyzed 141:21 227:15,18 230:6 analyzer 218:12 analyzers 249:2 analyzing 249:7 anesthesia 223:13 animal 220:18 223:14 animals 225:1 annual 29:23 40:11 184:10 201:7 answer 8:11 23:21 54:11 62:3 147:17 151:19 179:22
--	---	--	--

223:9 283:3	appearances 2:1	248:25 249:4	257:13 277:15
answered 271:3	3:1	254:1	279:9 283:13
answering 118:4	appeared 3:17	april 36:9,12	asks 90:9
257:7	150:9 200:17	188:5	aspirin 10:3 28:13
answers 8:5 297:4	216:14 224:24	area 11:20 19:3	28:21
antenodal 183:20	appearing 226:5	67:2 79:13 81:3,7	assault 15:4 38:15
anthony 2:4 6:8	appears 24:18	208:9 227:2	240:23
12:11 298:5	28:4 43:10,15	229:18,23 279:2	assay 20:4,5 22:24
anticipated 21:1	62:18 117:21	arnold 3:18	23:2,2,3,14,19,21
antidepressants	132:15 152:10	arrangements	23:23 24:1,5,9
41:21 127:10	158:13 159:19	298:15	58:13,21 64:17
anybody 20:3	161:15 185:7	arrest 45:16	71:23 72:4 82:12
21:20 58:20	188:1 191:8	151:21 159:19	82:16,21 84:18
111:20 149:4	200:15 201:10,14	article 98:23 174:4	85:17 107:24
167:4 172:14,22	202:12 203:3,8	174:12 179:12,25	108:9,13 110:14
242:8 260:10,17	221:12,18	180:12,20,22	114:13 115:15,17
261:18 263:5	appended 300:11	181:4,5 242:23	116:14 128:11
264:14,18,22	300:18	255:7,16	131:1,6 189:9
268:20 293:25	applicable 78:11	articles 32:15,17	209:10,13,15,22
anymore 195:4	applied 19:5	164:3 174:10	215:4,4,15,21
apollo 13:6	104:22 177:12	182:2,5 242:22	217:9 219:17
apolloino 35:19	apply 111:24	ashtabula 39:19	244:7 249:12,23
apollonio 13:5,6,7	112:1	aside 30:14 34:11	285:2
36:17,20 54:22	appointed 17:11	39:14 73:11 75:19	assays 16:21 22:16
59:23 66:22 95:16	approach 60:22	103:10 111:23	25:20 34:21,24
96:15 101:3,21	218:17 220:6	145:8 158:8	41:11 58:12,17,19
apologize 60:12	appropriate	161:11 173:11	59:10,13,20,25
177:21 259:13	100:16	191:3 193:20	64:15 71:21,25
270:22	appropriately	196:2 199:25	86:4 87:1 98:4,12
apparent 229:17	173:7 225:8	asked 62:6 103:20	107:13,17,18
appeal 21:4	approval 267:9	104:11,14 110:7	108:7,15 111:24
appealed 21:2	approved 23:19	118:13 139:14	115:23 281:16
22:2	220:21	162:25 163:5	285:5,13
appear 118:6	approves 267:4	167:2 168:22	assigned 59:6,7,12
134:2 138:20	approximate	181:8 192:7 207:3	59:14,15,16 67:18
156:13 161:25	48:22	233:4 253:1 258:3	76:12 243:10
172:19 174:23	approximately	258:12 259:17	assignment 299:2
178:10 191:25	18:2 33:12,17	262:4 263:20	300:2 301:2
193:13,17 216:1	36:15,24 42:24	asking 7:12 36:2	assist 73:22
223:16 299:11	48:2 81:20 162:12	125:6 197:15,18	assistant 57:23
300:15	166:12 186:18	244:13 257:10,12	58:4 67:16 68:3

[assists - based]

Page 6

assists 73:25	attending 167:2	224:21 234:20	148:15 156:12
associate 292:8	attention 76:15	235:1 236:16	173:12 184:18,23
associated 174:16	263:19,25	239:6,25 240:1	192:22 197:21
176:4 292:1,4	attorney 297:6	298:13	213:25 216:10
association 28:6	attorneys 296:14	ave 298:1	221:23 222:17
29:24 138:9 178:2	297:8	avenue 1:23 2:19	228:24 230:7,16
assume 9:1 65:1	attributable	3:12,19	230:25 234:8
91:15 126:23	175:25 178:1,6	average 209:9	237:21 241:10
132:21 141:15	205:19 276:10	aware 42:14 91:8	262:13,14 275:4
163:15 164:7	attribute 253:14	92:25 93:4 102:3	276:24 277:5
193:18 220:6	276:12	107:2 108:8	278:25 279:21
257:3 291:8	attributed 278:2	113:17,19,20	283:21,25
assumed 177:25	august 213:12	114:2 132:17,22	background 15:14
assuming 40:9	216:1,11,13	195:19 196:4	16:22 44:1 117:17
51:21 57:3 117:11	229:16 251:24	235:25 239:16	118:7 141:14
262:2,10 268:22	author 10:12	259:3 260:5,13,15	286:16
assumption	28:15,19 32:24,25	260:17 264:14	backgrounds
132:11 160:1	33:10 102:21	267:4,7,11 276:4	118:18
assurance 23:17	175:10,15 180:23	283:5	backing 164:1
107:20 109:3,6,10	authored 173:19	awareness 190:10	balraj 18:12
109:11,23 110:17	175:7 179:12,24	b	baltimore 17:19
115:24	180:12 221:18	b 27:6,17,18	77:22 114:13
attached 117:21	authorize 300:11	269:18	bank 89:12
139:24 140:10	authorized 296:7	b1 88:11	barbiturate 131:3
156:12 159:1	authors 255:9	bachelor's 15:15	barbiturates
185:7 186:3	auto 246:12	back 11:19 17:6	130:23
191:22 197:1	automatically	17:21 18:5,11,24	barely 30:10
300:7	282:12	19:2,4,6,7,8,9,15	basalt 102:21
attaching 139:25	autopsies 91:10	19:18 20:6,22	290:19,21
attachment 43:15	autopsy 50:6,8,11	33:3,16 42:7 52:3	base 41:23 42:1
185:10 240:23	51:11,14 52:13	52:20 56:12 57:3	64:17,20 125:22
attachments	66:8 68:7 89:9	57:4,17 58:15	126:6 128:5,8
151:16	91:12 128:7	60:20 68:4 76:25	219:25
attempt 69:10	129:16 238:4	77:21 80:24 85:14	based 21:14 41:7
160:20 182:14	244:24 245:18	86:13 88:2 89:18	54:5 55:15 65:8
attempting 152:6	275:3 281:3,5	93:11 104:25	83:3 92:6,19,24
attempts 172:7	availability	114:12 121:23	94:24 95:15 97:2
attended 113:24	160:21 178:13	122:13 126:24	97:8,9 122:5,17
113:25 232:14	available 78:6	127:3,5 129:7	138:20 144:9
296:12	92:15 113:7	132:25 133:22	150:17 151:9
	126:25 159:15	136:22 144:18	161:2,4 164:24

[based - bottom]

Page 7

166:7,11 172:12	believe 10:25 12:5	believer 230:15	black 200:13
179:17 181:15,17	19:18,25 20:20	believes 190:14	blood 28:18 29:6
183:10 190:15	21:8 25:3 27:12	233:16	35:4,6 40:24,25
194:17 198:9	34:8 35:10 36:18	bench 59:6,6	41:23 51:15 64:4
199:5 205:17,23	38:12 40:2 43:25	62:24 63:1,2	64:6,10,13,14
209:3 216:7 224:8	49:7 56:19 63:17	benches 59:3,9	65:13,22,23,25
234:19 235:1	63:19 77:13,18	62:21,23	66:16,24 69:3
239:9 264:13	81:18 82:18 84:11	benefit 66:18	87:12 88:9,10,11
281:19,23,25	86:10 87:8 90:2	146:10	88:11,13,16,23
bases 218:18	90:13,17 93:21	benzo 55:13,14	89:3,14,16 93:13
basic 54:4 68:1	98:17 99:11	59:16 193:16	97:3,8 109:24
124:16,22 125:5,7	100:21 106:15	benzodiazepine	119:8 120:14,15
125:13,20 127:20	116:16 122:3	35:4 55:12 59:17	123:1,6 125:22
127:23 128:1,2,3,5	123:3,18 124:14	best 26:9 61:15	128:8 143:1
130:1 131:16,21	129:15,17,22	67:3,6,11,12 72:24	217:20 218:1,6
basically 28:24	133:8,14 134:1	109:18 111:18	219:25
66:22 242:25	143:11 144:12	166:7 181:3	blue 203:5
275:3	145:19 147:18	190:21 204:18	blvd 2:12
basing 48:24	148:21 149:1	270:25 284:23	board 147:1
52:17	151:9,24 154:21	286:7	152:24 154:13
basis 108:16,17	158:18 161:4	better 47:12 54:16	172:10 173:9
181:24	163:22 164:15	96:15,16 97:6	195:13 199:3,10
bat 79:19	170:9 172:3 177:7	275:2	199:15 232:7
batch 24:3 139:1	177:11 180:3	beyond 23:11	263:11,14 274:10
246:13,16	181:7 187:7 190:1	95:22 113:11	boards 195:24
bates 221:25	190:2 201:17	140:17 195:25	196:5
bay 154:24	212:17 214:25	222:14 234:4	body 51:10 66:25
bear 103:17	218:23 227:24	235:10,22 258:24	67:2 86:11,25
bears 103:12	228:12 235:7	259:4 260:2	121:2 139:23
beaten 71:5	239:11 245:14,17	292:21	239:13
becoming 230:22	248:2,15,17	bhavna 269:17	bones 45:12
bee 249:1 250:9	251:19 252:25	bigger 59:13	book 102:20
began 16:2 36:20	253:17 256:5,8	bill 269:14	books 107:14
37:5 60:10 132:2	259:18,25 261:25	biological 15:1,6	boston 29:8,13
223:15	262:7,16,17,20,22	50:11 119:23	bottle 99:6 129:20
beginning 288:18	264:24 265:5	247:3 261:11	bottles 99:8
behalf 6:8,10,12	267:24 268:23	bit 33:5 36:22 44:4	bottom 144:5
6:14,17,20	269:8,18 274:5,8	49:19 77:6 110:10	161:23 174:2
behavior 169:12	275:7,12,18 281:4	259:15 273:20	191:8 196:21
belief 269:3	believed 11:23	279:1 284:14	204:24 221:24
	179:25		255:1

bova 153:20	bumped 55:17	calling 19:19 36:2	224:23 227:1
boxes 160:17	bunch 22:19 80:22	59:2	228:21 229:6,18
200:14	146:3 258:5	calmed 68:8	229:21 230:7,11
boyfriend 294:7	283:11	camille 167:5	230:19,22 276:18
294:13	buprenorphine	181:8	278:10,18
brandy 2:10 6:10	25:10 127:12	campaign 266:6	carfentanils
7:10	130:14	canceled 126:2	229:11
break 8:8,10,12,17	burdens 224:1	cannabinoid 35:6	carisoprodol
60:14,21 124:8	button 45:20	109:24	130:24 131:4
187:16 225:20	buy 219:15 250:16	cannabinoids	carolina 102:15
284:14	c	249:10,13,16	290:1,12
brecksville 14:18	c 27:6,12,12,14,17	capability 270:9	carrie 22:4 27:1
brief 270:21	74:24 155:6	capacity 34:15	33:11 59:12 188:2
briefly 14:11	ca 298:25	265:2	210:13,20,23
34:19 44:8 152:17	cabinet 262:3	capretto 154:18	212:9 285:9
briefs 164:4	calculated 144:12	capture 141:15	carrie's 59:15
brilliant 140:7	calculator 165:2	268:6	215:14
bring 162:8	calibration 246:4	car 168:4	carrying 149:7
broaden 205:22	246:9,14,18,20	caraffi 152:23	case 1:3,9 7:4 24:7
brooker 27:16	287:10	155:14	25:24,25 26:1,7,10
brooklyn 153:9	calibrator 100:16	carbon 46:17	34:7,9 35:23 36:6
brought 265:2	100:18 115:14	cardinal 272:9	41:6,25 49:1,8,12
brown 277:6	211:22,22 212:1	care 180:25	49:20,21,24 50:9
brute 218:16	calibrators 23:5,7	213:19	50:23,23 52:17,20
220:5	211:19	career 16:24 17:13	53:6,10,10,11,12
budget 39:23	call 17:25 48:13	42:9 113:14 114:5	53:16 56:20 64:11
40:12	49:9,10 50:3,12	270:18	64:19 65:11,17
budgetary 248:3	55:16 62:24 71:10	carefully 296:17	66:5 68:12,17,17
building 68:11	73:3 74:7 88:11	carfentanil 39:7	68:19,20 69:6
70:4 75:22 235:24	95:16 108:2 119:8	62:3,5,9 79:13,20	71:11 72:17,18,19
built 81:12 128:16	128:8 165:11	79:24 80:1,6,7,10	79:6,11 83:1 84:2
bulk 46:25 254:9	212:3 265:9	80:25 81:1,4,6,14	84:12,21 85:19
bullet 46:12 47:2	298:14	82:7,14 112:15	86:1,2,10 91:21
97:2,5,16,25 98:14	called 18:4 44:6	205:8,11,14,15,20	92:7,10,13 94:24
99:22 118:21	50:25 54:13 56:24	206:2,14 207:15	96:1,1 98:25 99:4
119:1,6,19 121:15	74:15 80:4 85:4	208:12 209:2,5	101:12 104:9,12
121:19 123:21	88:10 113:1	214:7 215:13	104:15 110:25
142:7,17	123:20 124:15,16	216:16,19,21	111:3 116:6 120:4
bump 69:8 209:2	246:12 269:24	217:21 218:4,22	125:9,14,14,21
250:24	272:24	219:1 220:17,21	136:18 143:10
		221:1 223:14	147:24 151:17

[case - certain]

Page 9

152:7 166:18	50:9,12,12,15	228:5,9,10,12,19	289:9 291:6,12,19
167:25 168:11	52:23 53:14 56:22	229:11,21 236:19	296:9,11
182:6 186:25	57:1,24 58:24	236:22 239:20	caused 54:17
188:15,16 189:4	64:12,13 65:2	240:20,20,21,23	106:6 110:13
194:14,22 209:3,9	66:9 70:20 71:11	240:25 241:10,11	123:22 135:18
210:24 216:7,8,14	71:13,20 72:7,12	245:25 247:11,19	143:4 234:13,19
216:15 218:17	76:12,25 77:19	248:18 254:7	234:25 235:4,8
219:10 224:4,23	79:9,11,17 80:10	257:11 262:25	276:17 278:22
226:25 227:21,23	80:16,19 81:1	263:3,15 274:17	288:17,22 291:13
227:24 228:7,8,15	82:3,4,10,24,25	274:24 275:3,4,6,8	291:21 296:22
233:10,23 234:3	83:8,20 85:24	275:10,13,14	causes 32:6 241:5
236:24 237:6,10	89:7 99:12 103:22	278:22 281:8,9	causing 207:20
237:10,11,12,19	103:24 111:5	282:24 283:14	cautioned 296:17
237:22,23 238:20	112:24 114:15	cassandra 27:14	ccmeo 24:12 47:9
239:7 241:8	125:8 126:2 133:4	252:10 285:10	62:15,16 67:5
243:19,23 244:5,8	133:7,12,17 134:4	casual 13:12	75:1 90:4 91:18
244:19,20 245:3,4	134:6,10,13	catch 218:22,25	91:22 92:25 93:4
245:9,10,10,12,22	136:12,13 137:15	catchall 242:25	100:11 101:14
245:25 246:22	137:17 138:3,19	catching 219:4	103:22 112:6
247:7,9 258:4	138:22 142:3	220:25	115:2 116:9
264:2,6 271:7,12	143:25 151:23	categories 106:3	119:19 121:9
271:19 280:3,16	157:7 158:25	106:12 125:1	130:17 131:14
280:25 283:23	159:22,25 160:3,6	category 127:24	136:22,23 138:14
285:3,3,16,18	160:24 161:6,8,25	170:5 171:10	141:6 145:10
288:11 289:2	163:7,14,15,15,23	192:18,21,25	156:25 167:25
296:19 298:6	164:10 165:1,6	193:16 204:8	168:12 196:3
299:3 300:3	166:9 175:12	250:2	202:5 205:23
caseload 276:12	177:10,12 186:8	cause 46:20 52:8	214:3 222:20
276:16,16 278:2	186:13 187:7	70:14 78:23 87:23	224:11 225:11
278:14	188:6,13,14,15,17	90:25 91:9 92:2	234:20 235:2,14
cases 11:9,21 15:2	188:20,21,22	ccmu 131:22	
15:3,4,12 23:12,12	189:19 190:4,6,14	182:6,9,18 184:10	
23:15 24:11 25:14	190:15 191:1	200:11,16 201:8	
25:17 33:4,6,16	194:17 197:4,16	ccr 297:12	
34:3,6,12 36:9,11	204:9,16,17 206:4	ccso 154:3	
38:10,24 39:4,13	206:25 207:2	cdc 33:22	
39:15 44:6,9,14,14	209:7,23 210:18	center 2:6	
44:14,15,16,20	215:14,25 219:25	certain 55:5 58:12	
45:5 46:5 47:14	225:22 226:1	59:25 64:15 76:24	
47:20 48:2,3,7,11	227:5,8,10,12,13	80:7 82:11 108:9	
48:13,14,16,17	227:15,17,22	136:9 157:25	

[certain - clarifying]

Page 10

171:24 193:12	115:19 130:18	282:14	christie 252:9,9,12 252:14,16
217:7 219:4 228:2	131:10 132:6,19	checked 68:4 84:10	christine 154:11
236:14,20 241:3	132:23 242:9	checking 84:11 167:17 198:15	chromatogram 85:15
262:12	257:20 268:14	checklist 52:21 160:4 169:1	chromatograms 85:4
certainly 140:20	269:3 300:8 301:3	175:13 177:13	chromatographic 110:23 287:22
certainty 97:23	changed 19:13 20:15 42:6 56:18	chemically 223:15	288:1,9
276:20	77:1 115:8,21	chemicals 46:16 46:18	chromatography 110:25 111:19,20
certificate 16:12	116:12,15,16	chemist 18:5,8	289:15
93:9 115:2 133:13	130:11 254:15	chemistry 15:15 70:3,11 71:4,12,13	chronic 293:23
242:20 279:7	266:21	72:15,20 118:19	circulated 158:17 158:19
300:11	changes 110:1,2 116:21 131:12,19	214:19,19 248:14	circumstance 44:12
certificates 16:10	131:21 248:8	253:7 261:5,8	circumstances 92:7,14 261:2,6
certification 15:25	253:2,13 254:10	chief 12:24 13:1,4 18:10 20:7,25	265:19
16:6,7,14 299:1	267:24 299:7	29:16 35:13,15	cited 103:8
300:1	300:7,9	36:8,13,17,25 37:4	cities 38:14,18
certifications 15:20,24	changing 268:3	37:10,13 58:1,5	city 29:10 144:17 145:2 153:9
certified 15:21	characterization 140:15 151:13	60:5,8,10 74:7	154:22 190:4
93:1 296:4 298:16	characterize 221:6	83:18 85:12,25	296:13
certify 96:5 296:7	283:3,9,12	86:20 93:21,24	civil 296:9 299:5 300:5
296:8 297:5	characterized 195:9	94:9,13 95:5	claire 1:17 7:1
cetera 224:20	charge 37:17	100:3 101:11	117:20 140:3
276:11	39:25	102:24 138:7	192:8 197:3,7
cf 218:3	charleston 3:6	153:7,9 268:24	198:2 298:8 299:4
chain 51:20,23,25	chart 184:25	279:15,18,23,25	299:9 300:4,13
52:15,24 53:4,7,8	185:8,23 186:3	284:6,11,24	
67:21 78:5,21	201:10,14 202:17	285:17 286:18,21	
90:5,14 196:22	202:24 205:1,17	287:3 289:1,12	
210:7,9 211:7	207:4 229:5	291:2,10,15	
240:20,24	250:23 254:5	chiefs 29:22	301:20
challenges 119:14	290:13	138:11 140:4,11	clarify 8:21 36:23
222:2 223:18	charts 157:24	children 72:3	101:23 103:19,24
224:14 225:20	200:24 201:1,4	129:22	105:22 167:12
264:20	292:2,3	choose 54:2	180:5
challenging 226:2	check 24:6 26:11	124:20	clarifying 167:9
chance 24:22	26:16 42:20 51:20		
213:16 230:8	52:1 70:21 73:9		
change 42:13	88:15 115:13,17		
58:24 72:1 77:14	103:3 160:16		
77:20 78:1 80:14			
88:15 115:13,17			

[class - complete]

Page 11

class 55:8 192:25 193:19	codeine 69:2,3 111:13 119:21	126:14 144:2 148:25 149:2	274:18 committees
classes 192:15	120:1,6,9 122:20	159:25 168:1	273:11
classification 21:16	123:1,6 133:18 134:7,17,19,23,25	173:12 188:19 190:17 208:8	common 94:16 176:5 200:21 201:11,15 277:2
clear 42:22 54:11 200:16	135:1,8,11,13,18 135:25 136:15	216:21 234:11 239:12 247:4	commonly 119:22 276:25
clearly 179:4 197:13	170:7	252:13 279:12 292:8	communicate 270:4
cleveland 1:25 3:13 6:6 14:13 17:4,14,22 18:2,13 18:18,22,25 19:1,8 19:15 29:10 145:2 296:13 298:2	collaborate 65:15 collated 87:13 collates 86:4 colleagues 22:11 105:19	comes 15:8 49:8 49:12,24 57:20 100:14 159:24 164:6 280:4 286:25	communication 265:13
cleveland.com 255:7	collect 67:11 88:23 152:7 182:11,14 182:19,22 258:3	coming 11:19 19:7 51:24 76:22,23 99:12 129:7 149:9 160:19	communications 244:11
click 128:17 237:18 290:15	collected 51:12 88:21 150:6 182:14,16 258:10	comment 86:16,17 86:21 87:3,4,10,11 94:5,7 264:9	community 148:2 148:5 149:5 223:18
clinic 149:3,5	258:17,20,22	comments 86:22	commute 14:12
close 85:16 294:1	259:4	commercial 224:22	companies 233:25
closed 275:3,7	collecting 69:23	commission 299:19 300:25 301:25	266:3 273:2
closer 215:10	89:3 258:24 259:1	commissioned 296:6	company 208:4
clyde 27:14	collection 221:15	committee 21:8	219:5,14 266:19 272:4,15
cocaine 35:7 55:10 55:11 127:7 143:21 157:19 158:5 176:2,24 184:25 185:2,8,18 185:22,24 186:4,8 186:15,21 187:3,6 187:10 189:15 205:20 206:1,13 255:11 276:18 278:9,17 285:7,11 295:6,7	collects 239:11 college 30:25 114:7	145:12,15,17,21 146:1 148:9	compare 70:8
cocaines 189:23	color 35:2 88:20 88:22 128:23	149:14,25 150:12 151:8,11,12,22	compared 134:23
cod 142:18 143:7	columbus 2:13	152:6 156:4,19,22	comparison 176:15
code 134:2 216:4,4 219:23	column 136:1 193:2,8	160:5,9,20 161:17	competency 23:12 23:15 105:19
	combat 233:15	167:3 172:6 173:8	compile 184:10
	combination 174:21	175:14 177:6,9,14	compiled 159:11 159:20
	combine 10:3	194:1 231:1,2,18	complaint 232:16
	combined 255:11	231:23 240:4	232:19 233:5
	come 8:4 18:24	261:16 263:6	259:18 263:11
	39:12 41:14 44:16		271:6,7,15 272:21
	45:6 50:7,9,17		complaints 198:12
	51:22 76:14		complete 25:21,23
			33:20 52:13 57:8
			84:2,7 168:9
			297:3

completed 25:15 26:3 80:16 85:22 85:22 86:12 275:14 284:13 298:13	280:5 concerns 94:4 105:18 140:24 231:20,25 232:3	confused 36:22 confusion 110:14 conjunction 291:3	context 69:14 185:25 213:22
completely 115:13 125:3 182:16 219:8	concluded 144:25 concluding 144:20 conclusion 97:8,9 179:11 182:3,7,18	connally 155:7 connection 34:3 100:10 103:22 156:18 167:15	continue 51:19 53:18 54:25 56:9 77:24 124:8 142:23 217:6 223:17
complying 198:13	conclusions 97:2 181:25	258:18 259:20 273:11	continued 3:1 94:17 186:25
compound 224:16	conclusive 119:25	consider 20:1,2 94:13 95:5 96:20	continues 223:3 224:13
compounds 126:11	conducts 74:13	96:21 97:13 107:5 171:23 266:7	continuing 25:1 31:25 242:21 293:11,14
comprehensive 54:13 64:20 68:2 124:15,22 125:5,7 125:13,16,18 126:9 127:15,18 127:23,25 129:23 130:6,18,19 131:13 147:5,23 147:25 194:4 220:1,4 282:10,13 282:19	conference 255:15 255:19,24 256:3,5	consideration 94:24 96:8 168:21	contribute 98:4,13
computer 50:22 50:25 53:6 88:7 90:7 107:15 241:25 243:7,9,10 243:12 258:8 281:6	confident 212:6 confirm 55:19,20 111:21 244:12 275:19	considered 11:15 100:2 112:8 281:3	contributed 33:21
concentration 11:14 28:17 29:5 80:7 100:14,19 101:4 211:21 223:21 241:12 257:11 287:10,23	confirmation 35:3 35:5,5 53:21 54:6 57:7 58:10 59:15 59:16,17,17 61:3,9 63:7,20 70:16	considering 62:9 consistent 122:4 174:7 202:4,19 203:9 207:5,7	contributing 129:14 198:14 233:6
concentrations 99:23 224:20 257:23 287:25	79:18 81:4 83:16 83:17 129:8 138:22 191:2 209:3,4 212:9 216:6,8 219:24 226:11,18 227:5 229:10 278:5 281:25 285:9,10 285:11	consult 237:14 282:1	contributory 46:20
concept 66:13	confirmations 26:5 35:4,6,7 55:16 66:4 210:24 282:3	consultation 291:17	control 23:9 225:1 242:8
concerned 71:9 158:1 276:13	confirmed 133:8 confirming 57:6 57:11 73:9	consulted 102:18 consuming 220:7 220:8 226:10,13 226:15,23	controlled 147:4 convenient 298:15
	confirms 61:4	contact 126:14 151:21 245:16	conversation 75:11 94:8 109:20 109:22 110:16 132:15,16,18 183:11 230:20 231:4,19
		contacted 263:13 267:14	conversational 13:15
		contain 78:22	conversations 13:11 94:10 95:9 103:6 183:20
		contains 126:5	258:23 268:25
		content 116:11,14	273:10
		contents 28:21	copies 244:3
		213:17	copy 24:18 238:20 238:22 239:7

copying 188:2	costly 226:19,23	260:18,24 261:19	criteria 84:25
corner 221:24	costs 233:15	263:25 264:15	104:22 198:18
coroner 17:10	259:19	266:2 269:11,21	199:18 287:7
18:12 47:20	counsel 2:1 6:6	273:8 282:23	critical 69:14
240:25	7:18 117:2 222:21	296:3 299:10	cross 208:7,10
coroner's 16:3,24	259:7 262:4 297:1	300:15	218:1
17:3,6,8,14,16,23	297:1,5	county's 48:17	crossed 111:13
18:1,14 19:11,16	counselor 31:2	171:20	crr 297:12
44:2 47:21	counted 292:10	couple 11:17,21	crucial 73:22
corporation 6:15	counties 38:24,25	76:17 81:24,25	csi 45:12
271:24 272:2	40:1 80:21 188:21	97:24 168:2,7	curious 103:12
correct 24:19 26:4	229:20 230:23	187:8 213:18	current 14:19
34:22 35:13 38:4	country 222:11,22	218:24 222:5	17:22 64:4 93:13
51:4 56:7 57:22	267:2	235:14 256:22	217:9 219:6 222:1
67:2 87:24 89:11	county 1:8 4:18	289:19 292:3	currently 17:5
92:16 96:22	6:9 10:16 14:22	course 31:16,17	41:22 110:12
103:25 104:5	21:9 28:2 29:20	101:16 107:11	214:4 253:19
106:11 110:1	29:22 37:23,25	court 6:21 7:21	curve 287:10,11
115:5 119:3 120:6	38:3,6,8,13,17,19	34:2 146:25 156:1	custody 51:20,23
140:24 141:3,7,18	38:20 39:6,16,18	296:4,5,10,12	51:25 52:15,24
142:15 147:8	39:18,19,19,20	299:7	53:5,7,8 67:21
163:21 166:25	40:8 44:2,14,19	courts 34:10	78:5,21 90:5,15
167:18 168:17	48:14,18 57:1	cover 7:16 118:18	240:20,24
170:15 182:12,25	62:17 80:20 81:1	125:1 139:18	custom 269:20
187:11 201:9	86:15 109:8	254:19	270:1
265:7,8 275:23	112:10 113:3,7	covered 7:18	cut 129:4 289:8
284:5,7 297:3	114:10 123:23	254:18 259:15	cuts 286:8,10,13
corrections 300:17	140:2 141:2,11	covering 127:13	cuyahoga 1:8 4:17
correctly 23:7	144:22 145:5,10	cpdr 4:15	6:9 10:16 14:22
45:14 71:19	146:4,23,25	cpq 21:10	28:2 29:20,22
115:25 140:8	148:11 149:9	cpqs 20:18	37:23,25 38:3,6,8
163:22 172:12	156:1 173:20	create 136:12	38:13,17,18,19
178:19 179:9	174:15 178:3,9,22	created 33:15	39:15 44:2,19
197:6 272:19	186:23 188:14,14	269:16 290:7	48:14,18 62:17
280:2 281:17	188:17 194:17	creating 162:4	80:19 109:8 113:7
296:23	200:6,20 201:12	criminals 45:16	114:9 123:23
correspond	201:16 230:2,11	crisis 5:7 221:20	140:2 141:2,11
128:15	233:14,18 243:12	224:3 233:15	144:22 145:5,10
cost 178:13 248:24	243:15 247:15	253:2,15 254:11	146:4,25 152:24
249:4	253:5 255:25	254:16 259:21	156:1 173:20
	256:10 259:19		174:15 178:3,9,21

186:23 188:14,17 200:5,20 201:12 201:16 247:15 255:25 256:10 260:18,24 261:18 263:25 264:15 266:2 269:11,21 282:23 296:3 cv 4:8 24:19 30:6 31:22 cyclopropylfent... 82:18	212:10 225:5 242:11 243:22 244:6 245:5 246:14,21 255:13 261:15,20,23 285:5,13 database 136:2 163:2 191:14 192:1 237:4 241:7 269:16 databases 136:5 235:15,21,22,25 date 6:2 16:1 24:23,24 31:21 33:13 86:12 89:22 90:2,7,8,11 117:13 188:5 228:22 229:15 230:1 253:23 262:17,18 270:18 298:8 299:3,9,19 300:3 300:13,25 301:20 301:25 dated 43:13 184:16,19 194:13 200:6 210:16 213:12 217:15 255:1 dates 86:11 236:21 david 155:20 dawn 148:23 149:11 day 2:11 7:11 15:11 25:17 31:17 53:2 76:10 195:1 207:5,5 222:19,19 235:19,19 270:19 296:15 299:16 300:22 301:22 days 298:19	deacetylated 119:2,7 dead 237:2 deal 269:15 274:10 dealers 253:6 deals 36:4 dear 298:10 dearth 179:1,14 180:1,6,18 death 44:12,21,24 45:2,3 46:21 52:8 52:10 54:17 69:24 70:14 72:6 73:12 73:22 74:13,19 76:5 77:4,16,17 78:5,24 79:7 87:24 91:1,9,18 92:3,16,19,22 93:2 93:6,9,20 95:19,23 96:5 97:13 99:22 105:22,23,24 106:1,2,7,10,14,25 115:1,1 121:17,20 121:25 123:2 129:13,14 133:4 133:13,13 134:3,5 134:8,11 135:19 dates 86:11 236:21 david 155:20 dawn 148:23 149:11 day 2:11 7:11 15:11 25:17 31:17 53:2 76:10 195:1 207:5,5 222:19,19 235:19,19 270:19 296:15 299:16 300:22 301:22 days 298:19	237:19 240:4 241:6 255:25 261:16 263:5 274:17,24 275:5 279:5,7,9,14 288:17,22 289:9 291:6,12,13,19,21 292:1 deaths 4:25 28:16 29:4,9,16,20 44:10 44:11,11,12,12 70:7,8 79:1,2 112:1 122:12 123:8,16,17,23 125:1 133:1,1,2,10 136:24 137:1,3,10 140:2 141:5,11 143:24 144:14,21 145:10,22 146:13 146:18 147:5,8 156:13 157:5,7,12 164:16 166:21,23 167:16 174:16,19 174:23 175:25 176:17,21 177:1 178:3,5,10,22 185:19 186:19,22 187:4,11 194:5 200:5,20 201:11 201:15,22 202:1,8 202:22 203:11,14 203:24 205:11,11 205:14,15,18 206:1,17 207:20 250:25 276:13 278:17 292:9,16 debra 2:17 6:12 decedent 46:6 114:18 142:25 146:17 148:3 237:1,13 264:20
--	--	--	---

274:19	definition 171:19	151:3 158:9,12	216:16 217:2,5
decedent's 86:9	172:2 231:15	161:12 173:14	219:20 220:13
decedents 146:5	definitively 69:12	174:11 184:13	223:22 228:1
182:11,19,22	138:23	187:22 191:4	248:22 257:24
237:16 274:22	degree 15:15	194:9 196:11	282:5
december 15:17	delos 154:11	200:1 210:3 213:8	detected 54:24
43:13	demographic 86:8	217:10 221:9	72:23 84:21
decent 70:5	236:25 237:3	254:21 295:15	119:22 121:24
dechert 2:18	demographics	298:8,11 299:1,3	212:18,20 227:10
decide 18:13,24	174:25	300:1,3	detecting 225:21
50:10 66:8 199:14	demonstrate 47:5	depositions 296:8	detection 108:8
decided 18:18	dental 256:10	describe 72:17	212:4 214:13
21:5 145:10	department 15:23	141:23 145:25	250:13 287:18
193:24	17:20 25:22 35:16	195:16 204:19	detects 122:20
decision 21:4 22:2	38:11 44:3 50:14	236:9,15 248:11	determinant 46:20
53:24 83:19 96:25	51:4 67:9 68:11	described 16:17	determination
132:18 251:2,4,6	70:4 74:13,15,22	35:9 51:7 62:22	64:9 78:23 91:5
289:8	77:23 83:9 100:1	69:21 72:11 83:10	92:6 95:14 114:18
decisions 68:21	121:24 214:19	115:22 258:25	238:9 279:5
248:3	247:12 253:21	259:1,4	288:14,20,23
deck 144:21	261:5,8,10 270:7	describes 63:7	289:4 291:4,10,17
decomposed 46:6	279:4 298:24	106:1,6,8 118:21	determine 11:22
86:25	departments	119:13	20:19 21:14,16
decreased 36:10	24:14 36:1 38:13	describing 60:25	41:3 53:21 54:15
dedicated 220:24	48:7 112:3 190:3	63:3 122:9 208:18	54:23 55:21 65:16
223:24	236:1 248:13	212:11 220:5	79:12 83:23 85:6
deed 299:14	depend 57:12	237:5	87:23 91:9 92:15
300:20	dependent 78:17	description 106:5	92:18,21,23 97:12
deemed 298:21	depending 285:3	106:6 151:15	101:9 110:15
defendant 234:3,9	depends 65:10	224:8,9	111:5 114:22
234:14,19 235:1,8	deposes 7:5	descriptions 21:15	133:3,22 136:12
defendants 2:22	deposition 1:15,21	desires 281:19	136:16 150:14
6:13 233:23 235:5	4:8,9,10,11,12,13	desk 243:13 262:2	171:13 208:25
235:9 259:12	4:15,17,19,20,21	262:6	209:14 211:17
271:10,16,18,18	4:22,23,24 5:2,3,4	desktop 243:17	212:3 260:6
272:21 273:13	5:5,8 6:1,5 7:14	details 40:11	261:13 281:24
define 280:20	8:7 9:16 12:2,8,21	73:22	determined 22:1
definitely 82:6	13:9,20,22 14:1,5	detect 39:9 40:20	110:20 149:25
129:17 217:7	14:6,9 24:15	41:23 69:10 70:12	150:18
233:2 251:5 271:8	27:24 43:6 113:11	81:10 123:16	determines 46:15
	117:5 139:15	207:9,19 209:5	47:3 54:12 61:2

[determining - dr]

Page 16

determining 66:6 90:25 92:2 95:5 214:13 detoxification 151:20 develop 209:17 developed 284:21 development 15:11 dictates 125:4 die 99:23 died 106:9 147:11 150:10 184:4 differ 35:21 difference 17:8 differences 36:3 different 18:5 20:21 21:18 22:25 45:11 55:4 58:17 59:10,20 80:10 81:16 88:24 92:10 99:9 102:22 108:10 110:11,22 124:13 138:4 146:3 154:5,6 189:4,4,19 219:8,8 219:14 245:24 257:6 285:4,5 288:6 differentiate 258:1 differently 79:11 79:22 83:8 99:13 234:23 difficult 97:17 121:6,12 142:13 207:19 225:4 226:7 268:15 269:4,9 difficulty 141:17 dihydrocodeine 10:19 30:5	dilution 100:19 101:6 direct 279:4 directed 289:5 directly 21:20 35:12 disagree 24:6 disaster 140:6,16 140:20 disciplined 105:11 discovered 137:9 discuss 12:20,23 65:20 85:11 95:17 160:16 172:6 181:6 200:18 232:2 275:10 282:7 discussed 10:2 11:7 32:22 61:1 94:1 95:21 96:19 102:12 110:8 113:22 116:18 121:5 131:20 141:16 142:12 146:17 147:12 151:18,25 173:1 181:9 192:2 196:9 209:21 232:10 237:23 240:9 247:1 255:14 discusses 46:12 47:20 48:1 discussing 30:7 63:9 64:25 93:18 99:16 113:25 160:14,15 199:2 231:2,18 discussion 85:10 177:23 199:22 231:3,9 273:6	discussions 103:2 181:10 198:10 disease 105:23 dispensing 148:24 distinction 89:15 271:15 distributor 231:11 231:15 272:7 273:13 distributors 231:8 231:10,17,19 233:16 259:20 271:22 district 296:10 disturbing 178:17 division 49:9 dna 248:16 252:20 253:3,8,9,10 doctor 30:20 135:18 169:12,12 171:15,17,19,20 171:23 172:1,18 195:2,9,23 198:14 198:18 199:4,18 262:16 263:15,18 263:24 264:4 265:7,12 266:10 293:9 doctor's 265:10 doctors 25:22 121:25 165:9,14 165:19 171:24 172:7,14,19 173:3 173:6,9 195:4 196:4 199:3,9,14 260:3 264:16 266:2,14,21 document 43:10 60:20 139:21 156:21 188:11 191:23,25 197:11	197:22 200:9,15 200:17,19 201:7 210:5 213:20 221:15,21 232:22 233:3 237:25 254:24 documentation 68:6 132:22 documented 169:1 documenting 178:15 documents 12:5 242:8 243:1 245:8 246:11 258:4,5 280:14 doing 18:17 20:8 21:18 25:13,16 35:23 58:10,13 59:18,19,21 62:14 71:22 73:2 83:21 107:25 118:2 123:19 129:5 163:21 165:3 221:3 226:21 239:15 275:1 283:22 284:1 donations 89:13 dose 77:17 95:6 99:17,18 100:2 double 26:15 219:12 doubt 44:13 dr 10:12 13:1,5,25 18:12 28:4 35:19 36:16,17,18,20 37:4,11,12 42:17 54:22 58:11,16 59:3,23 60:5 66:22 95:16 96:15 101:3,21 116:19 117:10,11,16,23
--	--	---	---

118:11 137:22 138:21 140:14 146:16 147:15 148:10 149:11,16 151:24 152:2,18 156:11 162:25 171:22 173:20 175:9 177:5 181:4 191:9,10 193:24 196:9,16 197:2 198:6,8 199:11 211:8 221:19 224:8 240:7 263:7 268:23 273:10,22 274:4 draft 221:12,17 233:6 dramatic 136:23 137:4,6,9 157:5 174:16 178:4 201:22 202:21 203:21 205:3 dramatically 144:22 draw 50:11 51:15 66:6,8,10 67:2 89:9,10,14,16 90:14 182:17 drawer 262:3 drawn 88:5,16 89:20,21,23 90:1,3 120:13 drive 242:4,6,12 242:13 243:7,8 258:9,12 driven 176:11 driver 178:22 222:9,24 drives 242:2,14 driving 33:8 176:16	drop 50:16 88:14 258:9 dropped 52:25 53:1 drug 3:8 4:25 6:15 15:3,22 16:7 25:8 38:14 40:18 41:9 47:3,10,15 55:5,7 55:19 56:6 60:22 66:23 69:17 70:3 70:7,10,21 71:4,11 71:13 72:6,13,14 72:14,20 73:11 74:4,10 79:16,16 86:14 98:19 99:2 99:15 112:1,12,14 128:15 142:24 143:3 146:25 156:1,13 157:11 161:8 168:16 169:13,20 171:4 176:16 178:5 179:3 182:23 192:15,25 193:19 200:5 202:8 208:2 214:18,19 216:2,9 216:15 222:10,24 223:12,16 224:6 224:20 227:6 231:3,6,8,9,11,15 231:17,19,22,24 237:15,16 240:22 244:11 248:14 253:6 259:20 261:5,8 265:10,11 265:23 271:21,24 272:9 274:23,23 276:12 283:1 284:23,23 291:11 291:18,19	drugs 14:25 15:6 25:9 41:7 46:15 47:4 55:9 70:22 72:6 73:12 99:10 99:13 102:16,22 126:5 127:7,9 128:13,18 146:20 148:15 157:13 168:24 174:21 176:18 183:9 200:21 201:11,15 205:24 206:5 214:13 218:8,16 219:2 220:16 223:16 224:5 225:4,7 234:11 241:3 253:6,7 261:12 267:1 269:4 276:25 277:2 281:21 282:25 283:7,12 284:2,23 286:6,14 287:1 290:14 291:4 292:1,11 294:25 due 76:9 143:2 178:5 248:18 276:17 278:17 288:9 dug 201:21 dui 15:3 33:8 34:7 38:14 47:13 247:11 duid 33:6 240:22 duis 34:9 duloxetine 41:22 duly 7:2 296:6,17 dumbwaiter 50:7 90:10 dunn 296:4 297:12	duplicative 270:23 duties 14:24,25 35:21 42:19 75:19 e e 3:5,10 27:14,17 27:18 68:9 117:9 153:25 210:25 earlier 34:19 35:9 37:16 53:15 62:22 64:5 71:19 72:11 94:1 95:21 99:17 103:20 105:22 115:8 125:9 126:23 131:25 133:3 140:12 141:16 142:13 157:5 192:2 207:11 209:21 230:2 250:23 258:5 265:6 289:19 earliest 196:21 early 42:9 162:17 easier 83:22 198:16 east 3:5 easy 43:3 207:9 economist 32:9 edition 290:23,24 educating 148:13 149:8 150:3 education 25:2 30:16,19 31:25 146:8,10 147:20 148:6 149:24 150:11,13,25 242:22 educational 15:14 16:22 effects 178:16
---	--	--	---

effort 132:2,7 172:17,19 173:8 195:8,15 209:18 221:7	217:20,25 218:7 218:15,21 219:4,6 219:8,10 227:2 285:8	emergency 149:13 employ 75:5 employed 225:1 empty 129:20 ems 160:12 encompass 46:24 130:25	equally 213:5 equals 64:4,4 93:13,13 188:11 equates 166:16 equipment 246:5 257:16 276:1,11 278:15
efforts 138:15 172:15 208:14 217:4	elizabeth 18:12 ellen 155:6 ellis 3:11 6:16	encompassed 192:20	eric 13:7 18:11 26:22,23 35:10,14 35:18,19,22,22,25
eight 287:2,2,3	else's 19:23	encountered 224:5	43:11,22 54:22
either 15:1 17:14 35:19 51:3,11 52:13 55:18 68:1 71:5 77:11 80:21 84:20 90:19 97:10 110:21 113:4 126:22 131:3 153:8 154:10 168:21 177:5 195:23 204:20 230:3 234:20 273:6 277:16 278:9 288:10 291:16 297:6	ema 153:5 email 4:9,10,11,12 4:19,20,21,22,23 5:2,3,4,8 43:11 117:9,9,10,11,16 139:18,19 151:6 151:10 156:11 184:16,19,19,23 185:4,9 186:1 188:1 189:12,17 191:7 194:12,20 196:1,14,21 199:1 199:22 210:7,8 213:11,17 214:24	ended 19:6 112:20 138:4	137:12 184:17 185:3,4 210:13 213:11 214:2 217:14 229:9 enforcement 151:21
elected 17:10	endo 3:22 6:20 267:25 272:11	engaged 141:24 169:12 171:15 195:9,16	eric's 35:20 erin 152:19
electronic 235:19 241:19,24 242:11 243:15 245:19 246:24 258:5,9	215:11 216:24 217:14 218:20 229:9,15 244:10 244:13 249:3 254:25 263:12	entail 40:23 262:8 enter 85:14 285:15 entered 88:7 285:16 300:9	errata 298:19 300:7,10,18 301:1
eliminate 286:14 286:25	emailed 181:7 emails 151:10 188:24 189:3 228:23 241:22 261:23	entire 17:13 22:18 24:3 74:15 96:24 96:25 97:1 176:5 182:11,13,19,23	especially 140:7 207:17 224:1
elisa 25:7 35:1 54:5 55:2,3 56:2,5 65:12,14,21 66:2 79:25 125:19 126:7,16,18 127:16,17,21 129:25 130:10,21 131:2,18,19 138:22 188:6,25 189:9,12,13,24 207:16 208:1,5 216:10,20,23	emch 3:3 4:6 6:14 6:14 270:14 271:17 273:5 278:6,24 285:23 286:3 292:25 293:4,7,13,16,19 295:11	entitled 46:9 173:20	esq 298:5 essay 215:19 essentially 17:9 18:21 86:4 87:19 226:12
	emergency 222:8 222:23	epidemic 4:18 10:16 28:3 173:21 272:24 273:14	establish 179:4 established 287:18 establishing 179:2 179:15 180:1,13 181:14
		epidemiology 31:13	estimate 75:10 221:4
		equal 143:7,12 175:4	et 1:8,9 224:20 276:11
			ethanol 46:16 126:12 247:20,21
			evaluate 84:9

evaluated 104:25 105:2	70:20 92:4 139:19 143:25 161:3	194:9,12 196:11 196:14 199:23	explain 11:8 22:17 37:22 49:25 66:18
evaluates 46:19	164:5 281:9	200:1,4 210:3,6	87:19 96:16
evaluation 105:6	examiner's 5:6	213:8,11 217:10	121:21 206:23
evaluations 105:3	14:22 17:9,15,19	217:13 221:9,12	211:14 218:19
evening 76:10	17:24 18:17 19:9	229:13,14 254:21	253:4
event 221:18 265:2	34:4 37:24 38:4 38:23,25 40:6	254:24 263:9,17 277:1,2 292:2,3	explanation 29:4 62:11
eventually 22:2 56:14 71:16 169:13	44:20 62:17 102:14 146:12 159:15 200:6	exhibits 4:7 5:1 187:16 228:24	explanations 10:21 30:8 86:19
everybody 20:19 58:9,17,18 111:19 242:4 285:3	221:19 240:25 260:18,25 261:19 264:1,15 268:21	exist 102:7,8 182:25 280:23	expressly 298:13
evidence 45:22 46:2 119:25 178:14 179:2,6,15 180:1,4,7,13,16,19 181:13 183:20	269:11,21 282:22 290:12	existed 102:3 existing 81:23 215:21	extensive 122:17 123:10
evolved 77:5	examiners 17:7 28:6	expanded 149:2 expanding 149:11	extensively 155:4 155:11
evolving 224:3	example 69:17	expect 135:13,15	extent 87:6 213:18 233:19 236:13 258:16
ex 294:7,13	76:8 86:22 206:11	expectation 181:13	extra 193:7 216:16
exact 9:23 16:1 18:23 28:9 30:2,9 48:12 76:17 107:4 134:21 248:24 261:6	274:14 282:9 examples 41:18 256:16	expected 135:1,2,3 expensive 218:10 219:16 220:9 223:24	extract 14:25 15:5 22:23 24:2 121:6 121:12
exactly 11:4 18:17 21:12 22:21 120:22 165:8 190:16 239:14	excel 197:1 exclusively 257:3 executed 300:10 execution 299:14 300:19	experience 29:11 30:17,19 71:24 184:3 202:4 205:23 207:5	extracting 15:12 51:9
examination 4:3 7:7 52:16 259:9 270:13	exhibit 4:8,9,10,11 4:12,13,15,17,19 4:20,21,22,23,24 5:2,3,4,5,8 24:15 24:18 27:19 43:6 43:9 93:11 96:13	222:19 224:10 225:11 282:22 292:14 294:4	extraction 15:8 23:5,6 108:4,6
examine 92:13 113:15 167:23	117:5,8 131:25 139:15,18 151:3,6	experienced 184:7 experiences 292:18 294:9 295:9	extractions 22:22
examined 161:7 296:17	158:9,12 161:12 161:15 173:14,17	expert 31:6,9 32:4 32:6 34:1 103:20 104:12,15	extremely 58:12 65:18,23 288:25 289:7
examiner 13:2 15:2 17:10 49:21 51:25 53:11 65:2	177:17,18,20 184:13,16 187:22 187:25 191:4,7	expertise 32:11,16 expiration 299:19 300:25 301:25	eyeball 89:11 eyes 51:18
f			
f 27:6			
facilitated 15:3 38:15 240:22			
facilities 148:18 149:10			
facility 146:24			
fact 34:15 103:25 104:1 133:3 137:2			

187:3 202:24	federal 296:10	206:2,8,13 207:8	163:17 164:10,19
247:21 256:3	fee 210:1	207:13,18,25	167:17,21,25
factor 46:20 95:4	feedback 105:9	208:2,6,8,11,21	169:5 198:12
factors 96:7 99:14	feel 47:11 54:15,20	209:1,4,6,6,11,14	238:21 239:7
facts 92:14 96:21	68:21,25 70:12	209:23 210:18,21	244:5,19 245:4,10
96:21 97:14	73:3 89:4 95:8	210:23,24 211:10	245:10,12,19
fair 61:19 69:13	96:15 97:5 98:11	211:15 212:9,12	246:22 258:6
72:5 73:21 97:22	107:3 111:14	212:16,25 213:3	280:25 290:7
147:22 151:12	129:12 146:8	214:3,6 215:8,13	files 91:17 161:3
186:21 191:3	198:12 256:13	215:14,21 216:1,5	163:7,24 168:15
197:21 204:22	288:8 289:16	216:8,15,17 217:2	182:6,9,18 235:13
205:17 220:11	feeling 52:10	217:5,9 218:24,25	235:19 237:12
236:15 247:14	feelings 292:20	219:17,23 220:13	243:19,20 244:20
254:3,9	feels 41:15 109:18	220:15 221:1	245:3,20,22,23
fairly 121:2	fell 21:16 192:25	222:2,2,9,16,24	246:3,25 258:7,8,9
fall 42:25 171:9	felony 34:7	223:3,15,20	258:10,13 281:13
211:25 287:10	felt 130:21 135:18	225:21 226:1,22	filings 262:2
falling 100:25	137:5 173:3	227:3,4,9,16	filings 14:8
falls 211:21	181:21 220:2	229:10 248:22	fill 20:18 83:25
false 61:12,15,17	287:5	249:7,12,22,22,24	108:24 109:1
61:20,25 62:4	femoral 28:17	249:25 250:3,3	146:16 151:25
63:16,21,23 266:7	29:6 40:24 69:3	256:6 257:1,8,14	222:6 280:3
266:10	87:12 88:9,10	257:17,19,22	filled 21:23 152:3
familiar 43:21	120:14 194:23	276:18 277:7	160:5 191:15
66:13,20 91:21	fentologue 218:8	278:3,5,10,18	194:24 237:5
96:14	218:15	285:8,10	252:7,11,14
family 52:19 73:19	fentalogues	fentanyl 32:25	262:19
149:2 168:23,25	217:21,25 218:17	83:13 189:23	filling 52:12 195:2
183:6,11 238:1	fentanyl 11:18,19	219:20 249:9	195:17 251:24
264:5 293:21,25	33:2,4,7,16 35:5	ferraro 1:21	252:3
294:6,12	59:15 61:23,24	296:13	fills 212:19
fan 103:15	62:6,6,10 79:18,24	fewer 277:24	filter 136:2
far 16:18 197:25	80:5,15,19 81:23	figure 74:11	final 25:13,18,23
257:3 276:12	82:3,4,7,9,12,13	107:16 164:2,6,22	26:11,11,12 35:23
280:5 283:5,6	82:20 83:1,16,21	166:20 206:20	36:5 58:2 86:2,3
fatal 95:7	112:16 115:15,16	figures 47:23	86:15 101:3 150:5
fatalities 175:5	127:10 143:16,19	48:22 157:10	150:14 191:22
fda 267:4,9,12	170:10,19 189:14	171:15 189:5	212:17,19 221:17
february 4:14	202:16,21,25	193:6 207:4	237:18 238:18
36:21,25 152:14	204:4,8,9,10,12,15	file 25:24,25 71:4	244:3 245:18
158:14	204:16 205:20	86:2 136:19	284:10,18 285:18

[find - frame]

Page 21

find 54:19 69:2 71:14 72:19 73:4 74:8 78:18 80:23 91:12 98:19 99:15 102:12 107:21 108:14 112:11 120:17 122:10,25 128:12 134:4,6,10 143:3,19 147:6 190:22 197:8 209:11 228:6 229:2 241:7 242:22 244:11 247:22 257:11 281:20 284:22 286:6,24 287:2 290:3 findings 87:5 91:11 190:13 finds 71:4 fine 8:8 30:10 167:12 231:13 finish 237:7 finished 19:7 81:18 227:24 228:7 247:9 275:13 284:1 fire 125:8,9 153:9 -fired 261:4 fires 107:4 firm 7:11 179:1,14 180:1 first 7:2,20 16:10 17:25 18:1 27:13 28:15,18 32:23,25 33:10 34:7 43:10 43:20 46:12 49:20 50:1 57:13 61:1 62:6 77:2 97:5,25 114:9 117:8 118:17 119:1,6	141:9 149:6 151:10,10 152:10 152:13 158:16,24 159:3 161:23 168:16,17 169:19 174:13 175:10 177:22 184:5 192:14,17 196:21 197:8,12,22 210:11 213:20 224:24 228:20 229:24 230:4,21 250:18 252:16 253:8 270:17 281:17 296:17 fit 60:3 fits 47:12 five 33:4 106:10 107:7 171:9 flag 82:24 flagged 83:2 flash 243:7,8 258:12 flight 218:11 flip 24:21 46:8 63:6 196:20 flipping 141:20 fluid 89:11 fluids 46:19 119:23 focus 72:23 83:13 210:8 213:19 folder 242:6 244:8 244:15 280:24,25 folders 242:2 243:21 folks 279:3 289:21 follow 41:16 259:13 following 29:6	follows 7:6 foolish 97:3 force 155:1,2 218:16 220:5 foregoing 296:20 296:23 299:13 300:18 forensic 14:21,24 18:4,6,7 19:20 20:10,11,13,22,24 21:5 22:7 26:25 27:8,15 29:24 37:25 38:8 46:13 46:14 47:2,11,15 59:5,11,20 60:22 fit 60:3 fits 47:12 five 33:4 106:10 107:7 171:9 flag 82:24 flagged 83:2 flash 243:7,8 258:12 flight 218:11 flip 24:21 46:8 63:6 196:20 flipping 141:20 fluid 89:11 fluids 46:19 119:23 focus 72:23 83:13 210:8 213:19 folder 242:6 244:8 244:15 280:24,25 folders 242:2 243:21 folks 279:3 289:21 follow 41:16 259:13 following 29:6	formed 145:17,20 184:2 former 251:25 252:6 forms 42:21 242:19 formulate 268:17 formulation 267:23 268:4,14 269:4 forth 237:21 296:24 forum 107:19 forward 76:19 187:9 205:24 217:16 254:12 276:6 281:19,24 forwards 185:4 211:8 found 11:15 18:16 26:8 41:8 42:1 58:11 70:9,17,17 70:17,21,22 72:15 98:22,25 123:6 138:2 190:19 201:11,15 237:2 276:25 284:2 288:15 291:20 foundation 72:10 98:8 113:10 273:1 278:20 four 119:10 177:4 192:23 frame 80:16 202:13,21 203:20 215:6 250:22 251:6,7 254:4,6,11 255:22,22 256:25 262:14 274:20 276:7
--	--	--	--

[frank - given]

Page 22

frank 153:20	funny 43:2	239:10	generic 122:8
franklin 80:25	further 23:4 46:8	gauge 215:12	getting 34:20
free 149:2,5	54:6,8,24 55:16,24	gc 214:3 215:15,22	98:21,24 129:5
299:14 300:20	56:12 68:22 69:9	216:2 246:12	165:5 193:14
freezer 56:15	69:18 74:10,11	geauga 39:18	245:6 291:24
247:5,10	119:11 129:21	general 31:24	gilson 10:12 13:1
frequency 212:22	178:18 189:17	33:24 44:1,19	13:25 28:4 117:10
212:23 232:11	192:22 213:25	45:5 66:5 68:1	117:11,16,23
266:2	270:11 297:5	73:6 113:8 122:1	118:11 137:22
frequent 39:20	future 222:2	122:11 123:8	138:21 139:19
frequently 40:17	g	125:1 133:1	146:16 147:15
42:22 75:9 88:8	g 13:6 210:25	134:20 138:15	148:10 149:11,16
107:21,23 109:15	gabapentin 249:13	156:24 158:2	151:7,24 152:2,18
115:19 116:15	249:17	159:16,17 190:9	156:11 162:25
122:7,16 129:19	gadean 260:21	242:25 274:22	171:22 173:20
138:17 155:12	gallucci 2:4 6:8,8	generalists 45:11	177:5 181:4 188:2
156:4 172:11	12:11 27:3 63:25	generally 11:6	191:9,10 193:24
216:18 223:20	72:9 98:7 102:5	14:23 25:6 35:20	196:9,16 198:6,8
224:20 244:17	113:10 117:3	44:15 46:24 49:25	198:20 199:11
248:1 256:13	140:17 169:15,22	76:18 106:5 114:2	210:12 211:8
257:23 269:15	171:5 180:5,8	127:6 175:4 236:8	221:19 240:7
friend 294:6,12	183:24 187:18	281:17	263:7 273:10,22
friends 73:19	222:14 225:13	generate 26:10	274:4
293:21 294:1	234:4,15,21 235:3	84:6 85:5 86:2	gilson's 140:14
front 25:8 44:5	235:10 247:17	129:8 165:10	175:9 224:8
108:5 165:3	260:1,8 269:6	198:17 238:15	gist 9:24
281:22	271:13 272:25	241:15 243:1	give 14:15 41:18
fs1 252:11,11	278:4,19 285:20	245:5 246:8,14	49:1 55:8 69:1,4
fs1s 252:7	292:21 293:3,5,10	285:18	76:8 94:18 108:25
fs2 252:7,11	293:14 295:13	generated 58:21	122:6 128:17
full 23:14 82:1	298:5	90:24 91:16	139:22 150:11
83:18 126:24	game 216:22	100:13 156:21	188:15 190:12
128:11 236:12	garage 253:20	159:12 160:6	192:10 210:19
297:2	gases 46:18	161:5 162:9	212:7 213:16
fully 9:4,8 81:21	gastric 28:14,21	167:21 175:10	236:21 241:10
220:17	gateway 179:2,15	238:18 243:22	252:4 274:6,9
function 51:9	180:2,14,17	244:6 284:11	284:6,24 286:18
functions 107:11	181:14	generates 58:2	287:11 289:21
funded 40:7	gather 146:6	generating 100:6	given 23:11 30:2
funding 224:2	gathered 68:14	146:13	34:11 50:23 100:2
248:14,15	93:23 175:11		103:22 147:11

178:16 182:9 255:22 286:16 297:4 gives 15:23 22:22 85:14 giving 42:19 118:12,14 gloves 272:3 glucose 125:24 126:7 130:1 go 7:17 8:12 18:14 22:18 26:14 35:15 35:17,18 37:8 49:2 53:14 64:15 66:1 68:3,14 74:18 76:9 77:6 77:10,12,16,18,25 83:19 87:3,10 93:11 98:8 99:14 102:12 103:3 108:25 109:5,17 119:18 133:22 149:5 152:17 187:17 197:21 201:3 203:19,24 212:14 213:25 225:14 228:24 241:6 242:18,22 244:15 245:9 256:17 265:11 276:24 277:5 281:6,12,17,19 283:19 285:24 286:18,20 287:3,6 288:14 291:22 goals 145:25 146:2 147:18,19,23 goes 28:9 53:7 54:8 65:9 68:13 150:1 202:1 205:10 214:12	218:8 238:22,23 253:8 279:6 291:2 going 11:10 24:23 25:23 27:4 43:20 53:20 54:4 55:13 57:3 60:19 62:12 73:7 76:25 77:12 77:15 80:17,24 81:21 83:15 84:20 84:21 89:18 112:23,24 117:7 119:18 124:8 134:19 135:2,23 143:3 148:15 150:5,11 160:1 174:17 175:22 191:1 192:24 205:24 213:24 215:2,6,19 216:7 216:15 219:7,9,12 220:4 222:5,17 230:25 246:23 254:12,23 258:25 260:1 268:4 270:24 278:25 279:1 282:13,14 282:15 289:9 292:8,10 good 7:9 70:18 124:1 129:5 151:15 226:14 231:12 259:11 gosh 31:19 242:16 252:12 gotten 71:6 158:21 255:13 276:3 graduate 167:6 graduated 15:16 grant 163:3 graph 203:4	graphs 140:6 great 8:6 9:15 53:18 54:25 65:7 118:2,4 167:9 188:23 greater 100:17,22 101:2,5 greeting 191:9 ground 7:17 group 63:4 146:2 235:9 grouping 62:25 groups 127:9 146:9 grow 77:24 guess 42:5 48:18 61:15 76:7 98:10 104:21 125:6 132:11 137:25 154:24 192:11,24 195:4 229:16 245:6 250:20 294:4 guessing 16:10 33:15 193:10,11 204:13,13 guy 194:24 guys 21:1 258:21	handing 24:17 43:8 151:5 161:14 173:16 191:6 194:11 196:13 210:5 213:10 handle 38:21 44:9 45:6 48:11 247:11 handled 79:11 83:8 handles 58:6 hands 148:21 149:12,12 happen 42:13 64:2 68:23 111:8 130:15 131:10 150:6 happened 20:16 46:1 106:5 109:15 111:12,16 212:21 227:20,22 261:6 happens 41:19 212:23,24 213:4 286:12 happy 289:15 hard 258:1 harold 210:13 hbc 272:15 hd 272:17 head 8:3 35:16 155:16 223:7,8 232:21 256:11 288:23 headed 216:3 heads 82:23 190:13 health 15:23 31:4 31:6 140:5,16,20 152:25 hear 240:19 271:25 272:6 290:18
h			
h 2:10,12 269:18 habits 172:8 hajian 3:17 6:20 half 12:15 118:22 119:10 120:24,25 174:19 hand 50:17 62:18 62:20 221:24 handed 68:16 111:8 139:17 184:15 187:25 258:15,20			

heard 113:23 181:18,19,23 229:19,25 273:6 276:5	138:18 139:1,22 140:1,2,15 141:5 141:10,17 142:9 142:14,18 143:2	223:4,19 highest 100:15,18 203:4 211:22,25 277:14,16,20	121:15 142:17,21 142:23,25 143:2,5 150:7
hearing 34:8 183:19 230:4	143:15,18,22,24 144:2,7,10,13,21	highlight 204:15	hospitals 151:1
heart 88:11,12 120:15	145:9,22,23 146:11,14 147:5,8	hint 69:4	hours 12:15 50:16 50:18 220:24 221:2 279:2 285:22
held 1:21 152:25	150:10 157:7,17	hired 251:9,18,19 251:21 252:9,21 252:23 253:3	house 41:13 80:12 107:3 129:9 244:12 282:7
hello 210:19 217:19	158:4 160:2 163:7 163:15,23 164:16	historical 64:4 93:14 116:23	housed 245:12
help 11:8 70:13 117:19 148:2,4 218:2 276:22 278:25	166:17,22 168:17 168:24 169:8,11 169:19 170:1,19 171:14 173:20	histories 26:7,10 122:5	houses 240:14
helped 28:4 209:19	174:17,18,20 175:23,25 176:21	history 52:18 68:12 69:1,6 74:3 74:10 79:17 94:25 131:8 167:25	huge 194:22 hugh 184:17 185:4 188:2 190:1,14,21 194:13,21 195:6
helpful 134:16	178:5,6,12,15,23	168:3,12 182:11	195:19 196:9,16
helping 147:15 167:6 184:9 233:6	179:3,6,16 180:2 180:14,17 181:14	182:13,15,20,23 209:3 216:7 227:5	196:24 197:15,23 198:5,23 199:11
henschel 3:25	181:22 183:23	244:4 294:10,13 294:16	210:12 211:8 240:7 255:1
herby 167:5	184:4,24 185:24	hmra 218:9,9,16	huh 13:24 94:2
heroin 4:18 9:22 10:15,16,21 11:10 11:15,20,24 12:4 28:2 29:9,19 30:8 69:1,5,7,12 70:17 70:18 79:17 114:14,15 117:14 118:7,19,22 119:2 119:7,15,23,25 120:4,9 121:20,25	197:24 198:17 203:4,11,13,24 204:16,20 205:20 206:1,13 211:9 216:1,14 223:5 255:11,25 256:5 268:13 276:18 278:9,17 294:7,8 294:15	hold 15:19 251:11 252:4	103:23 117:15,24 118:20 136:11
122:7,12,14,17,19 122:22,25 123:2,7 123:9,15,20,23 131:24 132:3 133:3,7,19,23 134:14,19 135:2,4 135:10,11,14,15 135:22 136:3,17 136:24 137:1,3,10	hesitant 121:25 hey 192:8 hi 117:16 191:10 194:21 197:23 hickey 2:5 high 218:11 249:2 277:11 288:25 289:3,7,9	holding 270:15 holland 155:9,14 home 19:2 homicide 44:10 106:18 honest 221:14 honorable 155:6 155:20	144:24 178:8 holland 155:9,14 home 19:2 homicide 44:10 106:18 honest 221:14 honorable 155:6 155:20
higher 100:15	134:22 206:15	hoops 273:24 274:1,3 hopefully 7:17 117:17 hoping 84:5 horribly 128:20 hospital 88:17,19 88:21 89:3,6	humans 220:19,21 humor 51:18 69:10 120:17 hundred 232:23 hurdle 284:3 husband 18:15 19:2,6

hydrocodone 87:12,16,17 170:6	identity 231:17 ii 18:6 19:21 20:21 20:23,24 22:1 223:12 251:25 iii 14:21,24 18:6 19:21 20:12,13,21 21:5 22:3,8 26:25 42:16 59:11 279:17 283:22 286:4 iiis 21:1 59:18 iis 27:8 59:5,21 illicit 69:23 79:14 127:7 157:14 161:7 170:18 171:3 204:9,12 220:15,18 223:16 249:21 253:6 illustrate 206:11 immediately 229:22 impact 225:7 impacted 292:15 implicated 291:5 important 67:1 70:13,13 72:7 83:14 120:19 improper 195:1,2 195:10,17 improve 217:4 improvement 217:1 impurity 135:12 inaccurate 76:6 256:9 inappropriate 264:16 incarcerated 146:23 148:16 incarceration 159:19	incidence 29:19 215:12 incident 143:4 241:4 263:18 incidents 140:15 141:10 241:6,7 inclination 95:11 include 73:16 84:15 86:7,9,9 88:1,4 89:20,25 91:17 93:7 130:20 175:1 204:7 244:2 244:23 included 30:6 73:13 84:17 90:4 105:5 125:16 126:9 127:14,17 130:6,19 131:17 157:24 170:4,8,9 170:11,13,23 171:14 193:5 199:8,23 206:24 244:5 268:10 includes 86:8,11 127:23 136:14 196:15 201:21 including 93:5 149:12 196:16 204:4,14,19,21 277:7 278:4 inclusive 45:8 incomplete 76:6 inconsistent 121:19 incorporated 272:13 300:12 incorrect 255:9 incorrectly 173:4 increase 9:22 136:24 137:2,5,10 138:18 144:6	157:8 160:20 187:7,10,13 201:23 202:7 203:20 248:17,18 254:6 255:24 277:23 278:2,9,22 increased 63:12 63:13 137:19 144:22 145:3,6 187:4 203:17 214:14 278:17,21 increases 276:17 278:14 increasing 114:15 114:16 137:1 140:20,22 141:1,6 145:9 185:24,25 increasingly 223:21 224:17 incurred 233:14 259:19 indefinitely 56:23 independence 143:9,10 index 4:1 indicate 79:6,15 88:24 90:6 114:21 129:20 144:5 178:3,10 234:10 280:12 indicated 188:25 indicates 79:9 128:25 174:3 278:8 indication 194:18 289:21 indications 292:7 individual 21:24 38:14 50:23 57:16 92:11 94:16 136:18 152:1
ian 27:16 idea 31:24 39:25 40:3 42:11 48:10 52:6 54:16 58:11 59:8 76:3,16 103:13,14 137:16 159:6 220:23 245:24 258:19 270:8 identification 24:16 43:7 117:6 139:16 151:4 158:10 161:13 173:15 184:14 187:23 191:5 194:10 196:12 200:2 210:4 213:9 217:11 221:10 224:16 254:22 identified 79:1 139:20 149:14 150:8,12,25 174:19 199:4 identify 6:6 28:1 142:14 147:19 148:9 172:17,19 235:6 266:17,21 identifying 119:14 141:17 146:9 148:5	Veritext Legal Solutions www.veritext.com	888-391-3376	

165:18 191:16	182:9 183:6	245:7 285:7 287:9	interpret 93:22
235:7 236:24	189:10 190:3,16	instances 61:24	97:20 214:23
260:4 262:25	190:22,24,25	63:22 65:4 72:25	interpretation
275:5 281:13,21	192:4,12 197:16	111:7 112:13	93:15 96:13,18
individual's	200:14 201:5,8	122:24 123:5	97:16 98:4,13
105:24 106:7	203:9 208:11	141:5 166:3	224:15 225:3
234:8,25	233:6 234:19	185:18 208:1	interpreted 93:19
individually	235:1 237:1,3,12	255:24 256:7	interpreting 94:14
124:24 227:18	238:15 239:9	263:23 288:6	96:22 100:6
285:12	242:5,15 245:17	instantaneous	interrogatories
individuals 11:22	260:9 263:14	45:19	7:6
24:8 62:14 91:14	264:8 266:10	instructions 293:8	interrupt 10:6
149:8,10 151:7	268:6,8,11 272:20	instrument 81:24	11:25 51:6 84:13
165:5 166:18	infrequently	214:14 218:10	166:14
169:16,19 171:14	75:14	219:19 246:9	intervention 146:7
234:18	ingested 120:10	249:5 250:14	147:6,20 148:5,9
influence 33:8	inhalant 126:14	instrumentation	149:14 150:13
172:7 292:20	initial 55:23 61:8	223:23 224:18	interviews 73:16
info 255:9	90:11 225:2 284:5	248:21	73:21
inform 69:24 74:4	initially 54:2	instruments 246:8	intoxication 29:6
138:15,25 140:23	injected 11:23,23	246:12	introduction
information 21:21	143:15	insure 67:5 208:20	207:18
22:23 26:14 28:24	injury 105:23	215:7 220:25	inventoried
48:24 52:17,19,24	168:3	227:8	239:14
65:24 68:14 73:7	inmates 148:11	interact 75:20	inventory 237:8
73:13 76:11 85:3	instance 11:13	interacted 146:4	239:5,15,17
86:7,8 89:21	40:6 41:20 44:23	interactions 147:2	investigate 183:22
90:17,18,24 91:17	45:25 55:2 64:16	interchangeably	investigation
92:15 93:22 96:20	73:3,6,16 74:3	179:8	69:14 73:23 76:5
97:7 98:21 102:13	76:4,21 77:2	interest 227:25	77:22 78:6 91:14
102:22 108:24	85:17 86:24 93:25	interested 41:10	95:2 122:17
118:7 122:6 138:5	98:22 106:3	112:12,17 171:12	123:10 138:21
138:8,11,13,24	111:11,14 115:14	194:22 297:7	146:19 161:5
141:14 146:6,18	143:21 146:19	interference	182:10 190:15
148:3 151:18	157:9 159:17	288:10	194:24 236:25
152:6 156:17	169:4 173:5 183:3	interim 158:24	248:16 264:3,3,7
159:7,9,12,14	203:14 206:12	intern 137:23	investigational
160:8 161:2 164:4	207:12 209:2	140:3 141:12,24	87:5
164:8 166:7,11	212:15 226:4	144:2 175:8	investigations
167:15,24 172:23	227:19 234:12	internal 49:1	74:14,16 75:17
175:11 181:1,17	243:3 244:11,23	52:16	

investigative 73:14 183:9 236:10	issues 35:17,18 57:17 58:5 107:20 109:23	jump 62:12 273:24 274:2 284:3	kicking 151:12 kids 43:2
investigator 68:13 77:3 152:20 239:10,11	items 282:18 iv 79:16 216:2,9 216:15 227:5	jumped 205:14 232:13	killing 255:10 kim 251:13 252:11
investigator's 68:18	j	jumping 259:14	kind 8:19 9:6 16:18 18:21 21:21 39:14 52:21 53:21 54:3 72:17,18,19 74:4 78:10 88:25
investigators 74:20 75:4,8,12,20 76:1,23 198:19 237:25	jackson 3:4 jail 148:11,19 150:3	june 4:15 161:16 162:15	104:7 128:9 132:22 160:8 168:10 172:18 216:23 221:4 227:7 246:4 248:8 261:7 272:21
involve 83:21 96:24 174:20 282:25 283:7,12 288:14	jails 149:9 janssen 3:15 6:17 january 1:19 6:3 59:1 71:22 72:1 158:25 159:23 217:15 296:15 298:4	jurisdictions 39:15 48:8 jury 66:19 justice 235:21 justin 3:10 6:16	kit 80:1,5 149:3,6 208:3 227:3
involved 24:8 34:17 49:20 77:4 108:21 129:19 146:24 162:4 184:9 185:18 186:21 187:6 199:4 206:5,9 209:18 274:17 280:16 291:3 292:11	jeff 154:18,19 jenkins 18:10 58:16 59:3 60:5	k 27:12,17,18 74:24,25 153:25 153:25	kits 79:25 149:7 208:5 216:20 217:25 219:5,6,7
involvement 279:4	job 17:22 21:15 100:10 104:23 107:11 118:2,4 207:6 222:20	kaspar 1:17 7:1,9 30:15 60:19 124:7 187:24 225:19	knew 81:2 230:18
involving 33:6 114:15	jobs 76:2 jody 269:19 joe 74:23 139:20 153:7 196:16	256:21 298:8 299:4,9 300:4,13 301:20	know 8:16,22 13:7 13:9,12,14,15 22:2 24:13,22 27:3 29:25 30:12,24 31:20 32:24 34:14 37:7 40:8,10,18 41:5,10 42:9 48:12,19 55:14
ish 130:16 132:13	john 2:12 27:10 29:16	keep 42:18 56:16 56:21 116:21 167:4 192:4	56:16 59:22 60:9 62:19 64:1 66:11 66:12 67:5,8 70:4 70:16 71:25 72:14
isopropanol 126:13	johnson 3:15,15 6:17,17	193:14 224:2 235:18	75:2,6 76:17,20
issue 67:7,13 76:14 94:13 101:25 104:7 109:11 110:17 173:6 208:12 217:22 273:9	jones 2:11 7:11 journal 98:23 journals 134:18 judge 1:4 155:21 july 17:21,22 18:25 19:10,16 36:18,24 37:3 210:16 230:8	keeping 56:17,25 191:14 192:9 kelley 1:21 296:12 kelly 3:4 kept 56:23 114:16 kevin 153:1,2 keytone 125:24 126:7	77:8,10,21 78:1,10 78:15 79:19 82:12 90:6 91:24 92:1 92:21,23 94:12 95:13,13,18 96:11 97:1,20 99:4 101:14,17,23
issued 56:13 57:9 115:2 141:2			

102:7 103:17	239:22,23 240:1,4	l.p. 1:9	lag 71:7 275:8
105:10 107:4,6	240:7 242:21	lab 15:5 19:4	lake 39:18
110:19 111:13	243:24 245:3,7,15	40:21 41:3,4,24	lapsed 16:12
112:2,16,20,21,25	246:22 247:18,24	42:19 49:24 80:10	large 107:14
113:1,24 116:4	248:13,24 250:20	82:8 104:4 112:4	134:25 135:1,3,8,9
117:1,3,18 123:9	251:4 252:22	112:5,6,7,9 202:20	135:13,15,17,17
123:11,13,18	253:10,23 260:10	224:11 225:11	135:23 177:25
128:13 132:6,8,10	260:16,21 261:2,4	236:2 241:25	202:7,12 209:11
132:10,14 133:17	261:5,7,18,21	243:1 246:5,25	225:1
134:20 136:6,7,8	263:5,7 264:6,12	247:4 258:6,7,8	largely 176:11
137:17 138:14	264:18,21 265:3	lab's 141:22	larger 77:22 80:19
140:19 143:14	267:21 268:10	label 88:6 97:24	245:4 292:9
146:20 148:19,20	270:9 271:2 272:3	122:11	largest 178:22
149:6,16 152:25	272:4,6 273:15	labeled 47:18 49:5	lately 227:2
153:2,5 154:1,4,22	274:4 275:22	60:22 93:15 96:13	laura 252:8
155:14,18 157:23	281:2 282:12	96:18 97:22	lavins 13:8 18:11
157:25 159:13	283:2,17,17	118:19 200:20	26:23,24 35:10
161:2 164:5	284:20 289:18	labeling 267:5,8	43:11 137:12
165:10 166:20	290:5,24 291:1,7,8	laboratories	210:13 213:12
167:13 168:14	291:9,15,22 294:2	109:10 224:1	217:14 268:23
169:24,25 170:4,6	294:10,12,14,15	laboratory 16:5,8	law 7:10 45:12
170:25 171:1,6,8	294:16,18,19	38:1,9 49:1,5,11	151:21 198:13
172:9,13,22 173:7	295:3,5	49:13,14 50:4,17	294:22,24
173:10 180:15	knowledge 102:8	51:13,22 57:21,23	law's 294:7,13
181:19 182:8	233:19 258:10,17	58:4,19 59:13	lawful 7:2
184:3 185:17,25	266:1,5,9,13 267:1	62:15,19 63:1	lawsuit 14:3 34:17
187:12 188:11	275:19 286:17	64:1 67:18 68:2	233:13,20 258:18
189:16 190:7,16	knowledgeable	70:12 80:2 81:11	259:12
190:19,25 192:8	40:13	82:5 108:1,4	lawyers 36:1
192:20 195:25	known 69:6	109:7,9 181:18	lc 81:23 215:23
196:7 197:12,25	122:19 123:7,9	209:9 227:25	218:18 219:18,18
199:13,16,17,20	128:18 148:13,24	235:20 241:15	219:18 248:23
200:12 204:18,21	161:7 166:12,18	242:17 243:11	249:1,6,15,20
206:8 214:1 221:2	knows 13:21 58:18	245:21 248:23	250:9,16 251:3
222:17 225:5	217:19	253:8 256:15	256:23 257:7,20
227:14,19,21,22	kucmanic 27:10	labs 40:16 42:6,10	258:2
228:6,9 229:3	kurt 3:25	42:14 112:6	lcms 250:6
230:1,7,14 231:13	I	209:24 244:18	lead 129:16
231:14,16 232:19	I 13:6 22:6 27:6,6	lack 83:12 180:12	leading 183:23
233:22 235:21,22	27:14 153:25	275:2	learn 16:21 114:9
236:12 238:21,22			230:21

learned 114:12 230:17	license 113:9 licensed 296:4 licenses 15:19	274:18 listed 27:25 44:9 45:7 127:2 128:25 141:11 152:16 156:5,8 161:20 169:3 171:2,9	logs 53:6 246:6 long 12:14 21:13 21:22 36:15 37:3 56:15,16 75:1 81:15 84:24 108:1 116:18 209:15 228:8 232:24 233:3 243:24,25 262:10 275:15 293:23
leave 18:13 72:3	life 43:4 89:12 118:22 119:10 120:24,25	liked 18:19 likes 83:19 limit 214:13 limitations 30:18 87:20 121:5,10 123:22 274:13 293:8	listing 300:7 lists 83:18 literature 289:20 litigation 1:1 6:5 298:6 299:3 300:3
leaving 148:11,18 150:2	limited 65:18 72:21 217:20 225:6	little 33:5 36:22 44:4 49:19 110:10 178:14 187:15 line 37:20 52:9 90:9 191:10 194:14 201:21 202:11,12,16	26:7 31:21 39:7 43:9,18,21 69:5 72:12,13 85:5 93:14,24 98:18 100:9 101:18,20 102:6,11 108:11 132:25 134:24
legal 14:8 74:19 104:15 121:10 232:19 298:1 301:1	limits 274:14 line 37:20 52:9 90:9 191:10 194:14 201:21 202:11,12,16	live 14:12,17 237:1 liver 65:13 87:1,2 119:12	135:14 141:9 145:22 151:16 158:23 163:6
length 57:2 172:4	llp 2:18	llp 2:18	171:17 174:1
lengthy 233:1	load 71:3	load 71:3	176:20 184:18
lethal 29:6 98:19 99:1,1,9,17,18 100:2 102:17 135:24 176:5 289:23	loaded 71:2,8 72:20	loaded 71:2,8 72:20	185:21 186:2
letter 148:10,12 149:11 298:20	local 34:9 112:10 224:25	local 34:9 112:10 224:25	191:16,17 192:1
letters 148:17 150:2	lingering 11:16 12:4 28:16 29:4 29:15	located 107:15 290:16	192:14 193:1
letting 13:9,12 190:19	link 179:4 255:8 290:6,16	location 68:15 88:15 247:5 298:15	201:20 202:11
level 75:20 108:8 134:22 178:18 211:17 212:3,6 283:20 286:15,15 287:17 288:16,25	list 27:21 85:18,23 126:4,19,25	located 107:15 290:16	207:24 221:24
levels 20:21 108:10 115:14 211:15 248:22 289:21	levins 184:17 230:15	locations 222:11 222:22	228:25 237:9
lexy 269:14	library 128:16,18	locked 50:13,20	241:8,9 262:13,14
		lod 212:3 287:23	268:6 274:15,16
		logged 51:2	274:21,21 276:22
			282:17 289:2
			292:2
			looked 9:17 10:1,4 11:9 12:5 33:16 100:24 147:2 160:11 177:12,15

[looked - matia]

Page 30

181:15 200:25	216:9 221:13	mahoning 39:19	267:18
218:1 229:3	229:2 232:19	main 1:23 3:12	marathon 8:9
261:24 262:10	254:25 289:16	36:3 296:13	marijuana 127:8
267:17,21 271:7,8	lorraine 39:20	maintains 243:20	295:4
275:5	lost 270:24	245:21 246:25	mark 52:9
looking 33:3 41:6	lot 30:15 35:25	maintenance	marked 24:16,18
43:23 60:20 70:25	59:19 65:24 77:6	223:25 246:6,7,18	43:7,9 117:6,8
84:5 93:12 97:24	83:15,22 99:14	246:19	139:16,18 151:4,6
101:22 102:19	102:16,21 103:13	major 29:10	158:10,12 161:13
108:10 120:5	112:24 115:16	208:12 222:9,24	161:15 173:15,17
126:11 127:7	135:14 138:13,19	223:25	184:14,16 187:23
128:9,14 141:24	146:18 149:6	majority 150:21	187:25 191:5,7
145:23 147:7,9	164:3 180:7 190:4	179:18 204:9,12	194:10,12 196:12
167:15 170:24	219:9 233:14	205:1,18,25	196:14 200:2,4
171:6,13 172:5	236:25 237:3	276:21 282:24	210:4,6 213:9,11
174:13 177:22	247:19 258:4,21	283:10	217:11,13 221:10
178:25 185:18	259:14 281:15	making 21:7 83:19	221:12 254:22,24
193:9 204:23	283:10,16 287:7	267:22	marker 43:3
213:6 222:1 240:8	loud 213:15	mam 119:9	marketing 32:11
250:23 254:5	love 19:1	management	mart 2:15 6:11
263:17 277:13,18	low 11:14 99:23	22:13 31:9 223:13	7:11
280:20 283:21	219:20 223:20	mandatory 166:1	maryland 17:18
287:1 288:2	248:22 257:12	manila 243:21	18:14,15,20 37:14
looks 48:11 60:23	286:15 289:6	280:25	mass 218:11
62:14 79:13,14	lower 62:20 158:4	manner 46:21	219:16 249:2
84:6 97:23 127:6	158:5 165:4 211:3	52:10 78:23 87:24	258:1
143:8 151:16	212:4,13 257:23	90:25 91:9 92:3	massachusetts
156:10 157:10,11	289:6	92:16,19,22 93:1,5	3:19
157:16 159:17,21	lowest 211:21,25	93:20 95:23 96:5	master 245:4,12
161:6,24 165:3	287:14	97:13 105:21	match 128:18
166:8 174:3	luigiano 13:5	106:1,8,8,25 107:4	256:14
175:11 176:20	luis 155:15	107:5 238:8	matches 128:14,16
177:3 185:3 186:3	lump 268:7	manners 106:10	matching 70:18
186:11 189:7	lunch 124:2,8	106:14	material 224:19
192:22 193:16	m		materials 226:8
194:14,24 196:20	m 22:6 27:12	266:11,15,24	265:15 267:12
196:24 197:15,18	machine 250:4	267:14	maternity 72:2
197:22 198:23	machines 256:23	manufacturers	math 163:20,21
199:1,8 201:22	257:21	231:3,6,22,24	164:14 165:3
202:11 203:13,20	madam 298:10	233:16 259:19	matia 155:20,21
205:1,13 214:4		265:10 267:7,11	

matrix 87:16 110:22 111:2,17 111:21 288:6	meant 49:7 87:19 142:20 190:9 210:20 211:11	292:19 medicine 15:16 meds 42:1 medulla 28:17 29:5	mention 64:25 125:8 130:22 239:5 271:21 290:18
matt 139:20 217:24	mechanism 226:15	meet 12:7,10,12 87:8,9 172:20 198:18 246:15 286:19 288:4	mentioned 22:15 25:18 27:23 29:1 34:12 38:10 53:15 57:6 67:18 131:25 132:1 133:2 168:8
matter 6:4 7:12 122:11 232:17 233:5 258:11 298:12	media 256:14 medical 5:5 13:2 14:22 15:2 17:7,9	meeting 12:16 28:6 29:21,23 75:11 138:7 140:4 150:14,19 152:10 152:13 154:2	230:2 235:14 236:10 249:3 250:9 251:8 252:20 256:24 290:1 292:14
mazzola 22:4 27:1 33:11 188:2 210:13	17:10,14,18,24 18:17 19:9 28:6 30:20 34:4 37:24	155:22 158:13,14 158:16,20,21,22 161:16,16,21 162:15 167:8	mentioning 56:3 231:24
mcconnell 2:12	38:4,23,25 40:6	177:15,18 197:25 273:6	mentions 151:17
mcdermott 2:5	42:3 44:19 49:21	meetings 12:20 145:19 147:13	messenger 286:5
mckesson 272:2,4	51:24 52:18 53:11	149:18 150:5,18	met 7:9 84:24 199:18 211:24 287:8
md 1:3	62:17 65:2 70:20	150:22 153:11	metabolite 69:11 120:1 135:11,22
mdl 1:2	74:19 91:13 92:3	158:17 160:5,9	metabolites 46:16 47:4
mean 9:12 22:20 31:21 43:23 49:22 61:12 62:16 63:18 78:13 79:5 84:1 84:14,14 88:22 91:19 96:11 121:21 139:12 142:19 143:7,11 157:25 159:16 166:14 180:7 183:25 195:22 218:4 243:10 245:5 249:24 277:24 279:6 280:20 284:18 286:3,13 292:6	102:14 113:8 139:19 143:25 146:12 151:19 159:15 161:3 164:4 182:19 195:12 199:3,10 199:14 200:6 221:19 240:25 260:18,25 261:19 263:2,11,14,25 264:15,20,23 265:7 268:20 269:11,21 281:9 282:22 290:11	172:23 194:1 232:14	metabolize 99:13 121:16 142:23
meaningful 46:7	medically 223:12	meets 287:21	metabolized 121:1
means 7:23 22:17 25:19 37:22 61:15 98:16 143:5 163:22 164:15 180:6,18 211:1,9 220:6 288:2	medication 9:6 99:7 126:4 128:25 237:8,16 239:5,17 239:17 244:4 267:15	member 51:14 145:14 263:13	metals 46:18
	medications 41:7 237:11 239:12,15 265:16 266:6,23 267:5,8 268:15	members 149:2 151:11 152:16,19 168:23 183:11 293:21	methadone 127:12 170:12,14,20,22 170:25 171:3 193:2,5,17,19
		memo 23:18	methamphetamine 127:8
		memory 126:22 174:8 232:14 270:25	methanol 126:12
		mental 31:4	method 15:10,11 81:12,13
			methods 81:16 141:20 223:22

methoxyacetylfe...	module 241:2	252:10 294:15	109:21
82:20	270:10	moving 204:3	necessarily 11:11
metropolitan	mom 113:21	multiple 193:15	54:21 74:6 208:23
29:10	moment 139:22	193:18 194:25	212:7 220:18
microliters 65:22	222:17 230:25	206:4,21,24	256:14 275:13
mid 162:17	money 40:8,9	282:25 283:7,12	necessary 23:22
midway 214:2	monitoring 178:18	292:11,11	54:16 86:23 89:4
midwest 29:10	179:3	municipal 34:10	necessitated
301:1	monoacetylmor...	municipalities	223:21 257:20
mil 100:23	119:8	38:16	necessitates 41:2
mind 45:6 184:8	monoxide 46:17	n	95:22
296:16	month 59:25	n 13:6,7 27:12,13	neda 3:17
minor 15:17	109:17 146:17	210:25 260:22	need 8:8,16,20
minored 30:24	147:10,12 162:12	269:18	22:23 25:4 27:10
minors 128:24	162:14 191:16,18	n.w. 3:19	45:23 46:3 50:10
129:3	274:18,19 275:8	naloxone 148:21	53:22 68:21 69:18
minute 164:2	275:10	148:24 149:1,3,6,7	73:3 76:1 77:10
minutes 4:13,16	monthly 109:16	149:12 159:18	82:16 86:19 96:4
118:22 119:10	months 16:5 59:8	160:12,17,21	97:6 107:25
158:13,16,21	82:1 192:13	name 7:10 13:5	108:12 110:21
161:16 167:7	251:20	22:4,5 27:2,13,16	111:1 113:8
177:16,19	morning 7:9	28:9 74:23 86:9	117:19 129:1,21
mirror 242:14	124:12	167:5 217:23	136:18 151:14
mirrored 176:9	morphine 10:3	251:10,13 252:13	167:12 198:1
miscellaneous	11:14 28:13,21	252:14,16 262:11	211:25 213:15,25
86:18	69:2,4 119:11,12	271:9,18 290:3,6	216:5 219:16
misleading 266:7	119:21 120:2,6,9	298:6 299:3,4,15	220:3 223:9
266:10	121:17 122:21	300:3,4,21	224:19 245:9
mispronounced	123:1,6 133:18	named 35:10	252:5 254:19
128:20	134:7,17,20,22	260:21 272:22	278:14 281:11
misrepresents	135:3,9,16,21,22	names 199:17	282:1,3 285:2
278:20	136:15 170:7	271:9	287:7
missing 24:25 25:5	223:5	nanograms 100:23	needed 40:18
39:21	mortality 175:23	narrow 134:13	61:10 83:2 108:24
missouri 296:6,14	176:3,4,9,10 178:1	naso 140:3	111:14 209:14
misspoke 125:12	178:17 222:10,25	national 1:1 6:4	229:10 238:24
mixed 120:15	move 18:18 19:2	28:5 42:3 178:18	257:7 265:3 274:6
mms 83:5	59:9 281:24	298:6 299:3 300:3	needs 54:20 55:24
mobile 253:16,20	moved 17:17,21	natural 106:22	85:10,19,21 87:9
253:22 265:1	19:6 215:22	nature 8:22 34:6	281:19 282:8
	219:18 247:9	37:22 44:21 57:11	287:10,17

[neg - occasionally]

Page 33

neg 210:25	north 102:15	191:4 194:9,14	169:5 170:24
negative 56:12	290:1,12	196:11,15 200:1	171:7,13 172:13
57:5 88:2 105:8	northeast 224:24	200:13 202:8	177:4,7 179:17,19
129:7 207:25	northern 37:8	206:4,14 207:2	179:20 181:15
211:1 212:14,16	103:15 153:17	210:3 211:23	191:15 192:1,9
212:19	notable 174:25	213:8 216:4	194:4 197:3,16,24
negatives 55:4	notary 298:25	217:10 218:18	198:11,15 199:5
61:13,15,18,20,25	299:10,18 300:15	221:9,25 225:25	239:19 261:19,23
62:4	300:23 301:23	230:5 248:13,18	262:15 273:21,25
neighboring 80:21	note 52:4 88:19	250:24 254:21	275:21
neutral 130:21	94:3	276:23,23 277:14	oath 9:10 124:10
131:1,5,9 290:6	noted 157:5 173:6	278:8 283:12	oaths 296:7
never 30:25 31:2	179:1	285:4 292:9,9	object 63:25 98:7
93:9 102:1 103:17	notes 108:2 197:5	298:7	102:5 113:10
105:11 150:4	197:19 237:21	numbers 48:12	183:24 285:21
195:3 196:6 201:6	notice 30:5 137:18	99:1 123:23 144:3	objecting 222:21
285:23	296:9	157:6,7 158:4	objection 72:9
new 2:20 59:2	noticing 136:25	166:15 170:17	140:17 169:15,22
207:18 208:6,8	137:13	186:2 187:12	171:5 222:14
214:13 215:19	november 184:17	188:15 189:4	225:13 234:4,15
219:19 224:5,16	184:20	206:7,13 247:25	234:21 235:3,10
226:4 227:9,15	nps 218:7,15	300:7	247:17 260:2,8
228:5 248:21	number 1:9 24:15	numerical 188:18	269:6 271:13
251:12 252:2,6,9	25:1 43:6 49:1	numerically 49:2	272:25 278:19
252:24,25	50:23,24 53:10	ny 2:20	292:21 293:3,5,10
newest 31:21	55:9 80:19 101:17	o	293:11,15
news 139:13	106:14 111:12	o 13:6,7,7 22:6	objections 297:1
night 255:8	114:14 117:5	27:6,6,18,18 74:24	observe 203:11
nms 42:2	133:6 134:21	74:25 153:25	observed 203:9
nodded 223:8	138:2 139:15	o'gorman 2:17 4:5	obtain 226:7 263:2
nods 8:3 223:7	140:21 142:8	6:12,12 259:10	obtained 119:23
nonexistent 225:6	144:13,14 150:8	260:5,10 269:10	obviously 13:2
nonpost 50:12	151:3 158:9	270:11	64:14 89:3 146:5
52:14,20 89:10	159:20 161:12	oaars 91:25	152:18 189:4
nonposted 51:13	164:24 165:6	oarrs 162:1,11,18	239:1 241:22
normal 107:10	166:21 169:4,7,25	162:19,21,24	258:21
normally 134:22	171:24 173:14	163:1,2,5,7,17,23	occasion 100:9
237:24 288:5	174:16 175:1,4	164:10,18,20	113:15
norris 140:3	184:13 186:4,7,8	165:10,17,19,20	occasionally 39:11
141:12	186:22 187:3,10	167:15,17,21	39:17
	187:22 190:6	168:5,15,18 169:1	

[occasions - omit]

Page 34

occasions 102:10 112:10	201:3,5 203:10 211:20 214:20	113:23 138:9 153:17 174:15	164:21 166:17,24 173:13 177:15
occupation 14:20 237:2	220:11,24 225:21 227:7 228:20	195:12 224:24 263:11,14 296:1	179:23 180:10,22 181:4,6,12 183:19
occupational 44:11,24	236:23 239:13,22 243:20 245:8	296:11 298:2 okay 7:16 8:13 9:2	184:9 185:6,14 186:2 187:14
occur 99:22 148:22 268:4 292:3	248:4,7,19 252:18 253:2,14 254:10 254:15 258:18	10:10 11:2,25 13:16,23,25 16:23 19:15,22 20:9	188:23 189:3,11 189:21 190:9,21 191:3,24 192:14
occurred 44:25 77:20 106:2 132:7 227:23 228:7 276:6	260:12,18,19,25 261:19 264:1,15 264:22 265:10 266:24 268:21	21:10 23:10 24:25 25:7 28:2,11 29:3 30:4,15 31:23 33:21 35:9 38:21	193:1,20 194:8 196:2,19,23 197:12,21 200:3 201:10 204:22
occurring 278:16	269:11,22 275:21	39:14 40:15 42:5	207:1,3,8,11
october 10:24 158:25 159:24 194:13	276:3 278:23 279:1 282:22 290:12,21 298:14	42:13 43:17 46:8 46:11 47:18 48:1 48:6,21 49:4,12,18	208:13 210:10 212:21 213:7,21 213:24 215:5
office 11:9 12:25 13:14 14:22 16:3 16:24 17:3,5,6,8,9 17:14,15,17,19,23 17:24 18:1,14,17 19:9,11,16 21:25 26:19 33:5 34:4 36:18,21 37:5,18 37:21,24 38:4,7,11 38:15,20,23 40:6,9 44:2,17,20 49:9 50:6,10,16 53:1,3 57:15 62:17 75:4 91:19 102:14 103:7 105:14 133:24 138:7,14 145:10 146:12 152:20,21 154:3,7 155:18 156:23 157:11 159:15 161:5 163:8 164:5 183:21 185:16 188:19 190:10 195:20 200:6	office's 39:1 officer 23:17 109:11 154:22,23 officers 50:15 228:2 238:1 offices 39:23 235:20 296:12 official 238:21 239:2 299:15 300:21 officially 81:6 ofta 29:23 138:8 138:11 oftentimes 170:14 oh 1:25 2:7,13 3:13 31:19 75:14 128:3 142:11 155:13 162:16 177:18 193:12 197:10 210:22 252:12 277:15 ohio 1:8 6:6 14:18 15:16,21,23 29:24 37:8 103:15	50:2 51:16,19 53:18 54:25 55:1 56:9 57:3 58:3 60:19,24 62:21 63:2 64:3,24 65:3 65:7 66:5,13 67:23 68:5 69:6 71:18 73:5 75:7 78:3 80:18 84:8 84:19 89:17 90:3 91:24 93:16 98:2 102:2 104:14 110:25 117:4 118:15 119:7 121:11 123:12 127:14,22 128:19 130:5 131:19,24 132:21 136:21 139:17 143:17 144:19 145:8 147:17 149:8 156:10 158:23 159:5,8 161:14 162:11,20 164:9	216:11,25 217:24 218:14 224:13 228:15 230:16,25 231:16 232:5,22 232:25 233:4 236:2,15 238:4 240:9 242:1 243:14,19 245:20 246:17,24 247:11 251:8,12,21 252:2 252:4,16 257:5 258:3,16,23 262:4 270:21 271:1,4,5 271:22,23 273:19 274:9 277:15 280:1 281:15 283:23 287:16 290:13 295:8 ol 153:23 old 227:14 older 227:8 oleksiak 153:24 omit 80:4,5

once 19:6 25:20,22 43:2 50:21 57:7 75:13 82:15 83:24 84:1,3 89:17 90:23 109:17 114:12 238:18 245:17 285:15	122:1,8,15,23 123:8,17 133:2,10 133:13,15,16 134:2,5 136:14 142:18 164:19 165:12 189:14 191:1 198:16 210:23 219:17 256:9 285:9 298:6 299:3 300:3	opioids 9:19 32:21 95:6 110:18 113:6 113:15 114:10 146:12 158:2 165:16 166:19 168:6 170:23 172:12 179:19 181:22 183:22 192:18 193:13,15 193:18 204:4,8,14 204:21 223:6,11	220:4 242:19 245:11 254:15 273:25 274:11 ordered 25:21 64:19,23 220:1 ordering 65:5 orders 124:25 125:11 127:15,18 194:2
ones 28:1 39:21 55:7 83:2 101:20 133:22 147:9 162:7 201:2 219:4 227:9 230:4 265:18,22 271:21 274:20 289:6	opiates 28:17 29:5 68:25 127:10 164:11,17 165:2,7 166:10 170:4,4 180:17 189:18,20	166:10 170:4,4 189:22 207:25 255:10 258:15 285:8	293:1,22 294:20 opposed 88:10 100:18 122:7,22 261:11
online 31:16	opinion 111:1 183:22 184:2 234:18,24 248:6 273:3	180:17 189:18,20	opposite 255:14
ons 124:23	opinions 75:25 104:8 234:2,6	183:22 184:2 234:18,24 248:6 273:3	opr 174:23 176:5,9 176:10 178:3,10 178:15 179:2,4,6 179:15 180:2,13 181:14
op 1:9	opioid 5:6 12:4 71:20 94:15,17,18 111:24 114:25 115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	104:8 234:2,6	oprs 223:5,5,10 optimize 214:14 option 54:3 100:14 options 88:14 218:7,14
opana 267:24 268:1	opinions 75:25 104:8 234:2,6 opioid 5:6 12:4 71:20 94:15,17,18 111:24 114:25 115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	oral 7:5 8:5 223:9 orally 118:4 orange 201:21 order 23:23 45:13 53:20 54:14 65:9 67:3,20 78:4,12 92:15 97:12
open 71:25 85:16 85:24 231:19 285:17	oprs 223:5,5,10 optimize 214:14 option 54:3 100:14 options 88:14 218:7,14	115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	ou 188:20 189:18 outbreak 29:9 outlets 219:9 outs 9:17 262:8 outside 38:16
opening 18:16 19:4	opinions 75:25 104:8 234:2,6 opioid 5:6 12:4 71:20 94:15,17,18 111:24 114:25 115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	104:8 234:2,6 opinions 75:25 104:8 234:2,6 opioid 5:6 12:4 71:20 94:15,17,18 111:24 114:25 115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	39:15 48:17 82:4 188:20 241:22
openings 266:18	oprs 223:5,5,10 optimize 214:14 option 54:3 100:14 options 88:14 218:7,14	115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	oral 7:5 8:5 223:9 orally 118:4 orange 201:21 order 23:23 45:13 53:20 54:14 65:9 67:3,20 78:4,12 92:15 97:12
operating 22:21 67:10 70:19,24 78:11 101:19,24 103:4 107:9,12,18 107:19,22 108:15 109:4 111:23,25 115:7,21,23 116:5 116:6,12 287:20	oprs 223:5,5,10 optimize 214:14 option 54:3 100:14 options 88:14 218:7,14	115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	253:17 269:6 273:1
operation 223:25	oral 7:5 8:5 223:9 orally 118:4 orange 201:21 order 23:23 45:13 53:20 54:14 65:9 67:3,20 78:4,12 92:15 97:12	115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	overall 165:1 176:9 186:19 254:7
opiate 1:1 6:5 28:16 29:4,15 35:3 55:8,9,21 59:15 72:4 83:17 83:22 85:17 107:24 110:20 114:13 121:20	overdose 77:12,16 79:1,2,5,7,10 80:15 83:8 95:6 98:23 112:1 115:4 120:4 122:1,2,12 122:15,23,25 123:16,20 124:25	115:4 124:14 170:2 174:22 176:17 192:23,25 193:5,8,10,19 198:16 204:20 221:20 223:4	123:16,20 124:25

125:14 132:3 133:1,2,7,13,15,18 133:18,19 134:19 136:17 140:1 142:14,22 143:2 143:19 144:2 146:6 156:13 157:2,5,11 163:7 163:15,23 164:16 165:6 166:9,18,21 166:23 167:16 171:15 174:19,24 178:1,22 184:4 185:19 186:8,12 186:19,22 187:4 187:11 190:6,15 194:5 198:17 199:17 200:20 201:5,11,15,21 202:1,8,25 203:11 203:14 205:11,14 205:15,18 206:1 206:17,21 207:20 207:24 209:9 225:22 226:1 234:13 239:19 250:25 254:7 274:23 283:13 292:16 overdosed 294:6,8 overdoses 9:22 10:21,22 11:10,16 11:18 12:4,4 30:8 80:22 133:23 134:14 136:3 138:20,23 142:9 144:7,10 145:24 150:10 160:2 175:2 230:5 overflow 253:19 265:2	overlap 280:14 owned 243:12 oxycodone 127:11 157:21,23 170:6 176:4,9,11,15,16 177:1 oxycontin 267:24 oxymorphone 127:11 170:8 194:23,25 195:3 264:10 268:1	panel 25:7,8 55:2 126:18 220:2 paper 10:7,7,9 28:25 33:10 173:19 175:7,9,10 175:11,15 184:24 221:18 238:20 239:7 243:20 244:2 245:3,20 246:3,25 258:6 281:12 papers 27:23 30:12 32:21 164:23 182:2	participated 149:18 265:9,12 participating 153:10 155:11,23 156:3,7 particular 20:4 34:21 37:17 41:1 52:9 56:20 58:20 61:23 63:4 64:10 84:18,22,23 85:23 95:25 98:18,23,25 99:25 101:9 111:7 112:11,14 190:4 201:6 213:19 227:12,19 234:9 234:13,13,18,25 235:7,8 237:15 244:7 245:8 246:22 256:4 279:2 280:3,15 283:23 288:15 291:19 particularly 110:23 138:25 226:2 parties 297:6,7 pass 23:15 246:2 286:7 passed 16:15 67:17 passes 66:23 patel 269:17 pathfinder 270:3 pathologist 30:22 41:6,10,15 51:3,8 52:4 53:24 54:11 54:18,23 56:22 64:22 65:5,16 66:6 74:7 78:13 78:22 86:10 90:24 91:4,8,24 92:3
	page 4:2 7:19 25:8 43:10 45:9 61:7 103:11 117:9 119:1,17 141:10 141:14,20 152:9 156:10 157:6 158:24 159:4 161:23 174:2,13 175:20 177:3 192:14 193:1 196:20 197:22 200:22 214:2 221:25 233:3 276:24 290:17 296:23 300:7 301:3 pages 27:20 118:17 192:23 193:14 200:13,19 200:23 232:23 pain 31:9,11 32:17 174:22 223:13 293:23 painkillers 184:5 294:14	part 38:18 54:21 70:19,23 94:10 95:18 100:5 108:3 141:22 172:4,10 193:17,19 197:7,8 218:25 228:18 233:17 259:20,24 260:6 264:19 273:4 279:16 280:10,11 281:3,4 288:13,18 300:9 participate 139:3 155:4 227:14 233:4	

93:19 94:9 95:9	pdf 71:3 290:7	166:12 186:7	71:1 74:3,9 79:17
95:12 96:4 101:12	pdrc 4:13	260:6 283:4,17	90:11 95:11 99:17
123:2 124:19,21	peak 82:22 87:13	perfect 62:11	99:19 106:9
125:4,11,13	212:11 288:2	perform 15:5,9,22	120:10 122:19
127:15,18 131:6	peaks 128:15,17	23:2,6 27:9 34:20	123:7 131:7
238:22 244:13	pejorative 286:4	47:10,16 53:20	143:14,15 146:20
248:17 264:24	pending 8:11	56:13 58:19,22	147:2 152:2 154:4
275:20 279:10,24	85:16 296:9	78:3 84:8 91:11	163:1 171:25
280:2,16 281:20	pennsylvania 42:4	107:13,16 108:3	190:21 194:7
282:1,9,19 291:3	people 58:11	285:1	202:19 228:3
291:11,16	59:25 63:4 99:13	performance	251:9 264:4
pathologist's	138:25 143:14	47:11,13 104:17	269:10 274:7
245:9	146:3,10,21	104:23 105:13	person's 54:17
pathologists 36:1	147:11 148:18	241:15	168:11 228:2
67:13 90:13 122:5	150:2 154:5,6	performed 47:21	251:10 262:11,15
122:10 123:19	158:1 164:18	48:3,19 54:7	personal 34:14
132:2	165:15,16 167:2	64:18 80:4 86:25	75:20 184:3,6
pathology 51:9	168:15 169:5,7,25	125:23,25 142:2	243:7,8,9 272:20
67:9 91:11 174:5	171:2,17 179:18	244:7 246:7	292:14,18 294:4
pathway 53:6,14	181:21,24 196:7	275:12	295:8
57:25 71:3 101:11	196:15 206:21	performing 45:11	personally 105:15
269:20 270:3	237:21,22 240:8	64:14 71:23 72:4	243:16 258:25
pathways 51:1,2	242:7 247:5	74:1 78:8 83:4	260:15 299:11
71:15,17 72:17,20	251:12 255:10	107:11 129:6	300:15
73:8 85:16,23	260:15 264:12,13	246:10	personnel 21:8
89:25 136:1,4	268:12 274:10,22	performs 27:15	35:17 223:24
137:14 141:23	people's 15:13	51:9	248:12
235:16,23 236:3	20:5 21:20 37:20	period 29:11	perspective 22:13
238:14,24 239:4	148:21	36:15 82:2 130:8	286:16,23
240:13,14,17	pepper 89:13	174:22 176:6	ph 128:2
241:1,7,17,18	percent 82:11	190:7 201:18	pharma 1:9
269:16 270:8	144:6 145:3,6	215:12,18 236:20	pharmaceutical
281:6 285:15	160:12,24 161:8	275:15,17 293:23	233:25 266:3,19
286:20	163:17,22 164:2,6	periodic 188:24	266:23
patient 121:16	164:11,15,18,21	permanent 56:24	pharmaceuticals
266:18	165:4,5 166:9,16	247:10	3:22,22
paula 185:2,14,15	166:17 169:4,10	permit 224:19	pharmacies 232:3
185:17	169:18 175:2,2,3,3	225:2	pharmacist 32:2
pcp 55:6 127:8	186:18	person 29:17	195:3,16,23
pd 188:21	percentage 21:18	40:13 57:19 63:4	pharmacists 165:9
	70:5,5 128:17	66:20,23 69:1,5	165:20 196:4

260:3	plateau 178:11	poison 145:11,14	portray 142:20
pharmacological 178:16	plateaued 174:23	145:21 146:1	position 18:3,16
pharmacology 31:15,17 118:19 119:18	plates 55:4 127:9 127:16,17 189:16 208:10	151:8 156:4,18,22 160:4 161:17 167:3 175:14 177:6,9,13 193:25	19:4,5,17 20:19 152:25 251:25 252:6,8,10,18,24 253:11
pharmacy 153:18 172:10 232:7 234:3 274:11	platform 28:5	231:1,2 261:16 263:5 274:17	positions 252:18 252:25
phone 3:17 12:18 298:3	play 95:13,17 233:17 276:19	poisoning 186:8 274:24 276:13	positive 54:9 55:4 55:9,21 57:4
phrase 234:22 291:25	played 95:18 259:20,24 273:4	poisonings 186:4 186:16	58:21 61:14 63:16 63:23 84:22,22
physical 261:11	players 260:7	polar 103:12,17	142:3 150:4
physician 113:9	please 6:6,19,22 8:22 14:15 175:21	police 15:2 25:22 29:22 36:1 38:1,7	163:12 170:22
pick 80:6 207:13 208:25	255:6 298:14	38:10,11,12 44:13 48:7,16 50:15	189:20 212:14 221:14 230:9
picked 207:16 262:13 275:4	plus 24:3 188:18	51:4 52:23 53:12 64:13 77:4 91:15	247:19 281:21 285:4,8
picking 208:21	point 16:9 17:24 19:12,20,21 20:9	138:7,11 140:4,11	positives 63:21 129:7
picture 62:18,20	33:20 39:5 44:3	143:6,12,13,17,20	possible 74:18
pictures 62:13	46:12 47:2 51:5	154:21,22 188:22	92:18 255:23
pills 262:21	52:11 58:4 69:8	190:3 227:21	possibly 61:18
place 6:5 44:25 47:16 274:13 281:11	77:14 81:2,5	228:7,16 238:1 240:19,20,21	69:4 72:24 82:23 158:20 178:12 232:4,6 239:14
placed 57:9 280:24 281:1 293:9	82:14 83:14 85:13	247:12	poster 9:21,24
places 39:5 146:7 223:25 235:18 241:19	85:25 90:25 93:19	policies 107:8	10:1,18,20,25 11:2
plaintiff 2:3	97:5,25 103:19	policy 31:7 56:18 58:23 132:19,22	11:6,8 28:22,23
plan 65:21 216:22 216:24	116:19 118:21	211:20	29:7,12,15,17,18
plate 55:6,8,10,12 55:20 127:10 130:23,23 131:4,4 189:14,14,15 208:7 219:13	119:20 121:15,19	polster 1:4	30:6 32:24 33:2
	123:21 150:11,14	population 144:15	138:5,12 241:4
	159:23 162:20	178:12 179:7	postmortem 15:1
	176:15 181:10	porter 3:18	28:14 46:13,14
	182:10 206:3	portion 23:15	47:12 48:14 94:20
	209:13 230:19	110:3,9,11 209:11	98:15 114:22
	240:2,3 256:6	218:19 236:16	121:6,13 143:1
	277:11,20 279:11	237:17 255:5	183:13,16
	285:22 286:11	260:6	potency 223:4,19 225:5
	points 91:4,7	portions 236:14	
	95:21 119:6 146:6	237:4	
	147:6,19,20 148:5		
	148:6,8 149:13,16		
	149:23 150:12,13		
	150:24 151:18		

potent 119:11 223:14	198:16 260:3 262:16 264:17 266:22 294:16	46:9 103:18 117:14,22 118:12 118:14 138:5,6,12 139:22 140:10,11 144:1 181:19 243:4 258:14 268:7,9	159:19 161:7 215:25
potential 106:14 106:24 113:15,18	prescription 1:1 6:4 99:6 113:6,9 157:14 158:1 164:16 165:7 166:4,9 167:20,24 168:6,11,16,23	presentations 9:18 27:21 33:1 103:13 113:25 185:23 201:2 267:23	previously 77:7 123:11 224:5 228:14
potentially 185:4 231:9	169:8,13,20 170:20 171:2 176:17 179:3,19 181:22 223:6,11	presented 10:19 10:20,24 28:8,22 28:25 29:7,13,14 29:21 32:24 33:14 102:18 138:8 140:4 176:10 223:17	primarily 205:25 print 9:17 88:12 88:20 197:4 261:22 262:8,24
powerpoint 28:7 29:20,25 30:1,2 43:16 138:6,10	249:21 255:10 256:9 262:18,19 262:21 266:17 268:14 272:13 292:19 293:22 294:14,20 298:6 299:3 300:3	presenting 176:14 181:1	printed 191:21 197:19,24 200:17
practiced 30:25	prescriptions	presents 224:13	prior 36:12,17
practices 172:16 266:22	164:11 165:2,16 166:13,19 170:3 194:25 196:25 262:15 264:10 293:12	preservative 88:25	37:3,10 47:5 59:22 71:25 76:23
preliminary 4:24 78:23 190:13,18 200:5	presence 46:15 47:4 55:19 61:2,4 69:17 72:6 73:11	preservatives 89:1	77:10 81:22
preparation 12:1 14:6,9 27:24 174:11	present 12:16 55:22,22 85:2 87:8 88:25 99:10 119:15 146:21 160:23 161:20 167:18 212:11	press 138:17 139:4 141:2,7 164:3,22 190:6 255:15,19 255:23 256:3,4 268:2	113:21 121:17 123:11 146:5 147:18 150:22 158:21 162:12,14 168:24 170:1
prepare 9:16 12:7 104:14	presumptive 55:3 55:20 65:24	prioritize 66:3,3 282:4	
prepared 15:10 117:22 118:10	pretty 18:7 20:7 45:8 77:3 147:10 185:1 201:22 203:21 219:22 233:1 255:13 270:16,21	prioritizing 83:13	
prepares 184:11	prevalence 9:22	probably 7:18	
prescribe 165:15	prevent 9:7	11:18 33:19 36:3 36:9,10 42:25	
prescribed 147:3 149:1 170:1,10,14 170:25 180:17 220:20 249:24 264:13 266:22 292:25 293:18	previous 120:23 147:12 151:19,19 151:20,21,21	43:24 76:16 81:17 81:25 87:8 109:12 123:2 128:19 132:13 134:4 135:16 156:23 160:3 175:13	
prescribers 198:12		230:18 232:22	
prescribing 165:11,13 172:8 172:12,16,20 173:4,6 195:1,5,10		243:6,18 264:5 268:22 271:3	
		probation 44:14	

problem 114:10 158:2,2 180:9 230:22 233:17	proficiency 44:15 245:23 246:1,2	pseudoephedrine 100:21,25 102:19	purple 204:23 205:7
problematic 110:10	proficient 58:12	psychology 15:18 30:24,25	purpose 6:7 32:7 141:15 147:24
procedure 15:8 22:19,21 63:8,12 67:10 70:20,24 78:11 80:4 81:7 81:10,23 101:19 101:24 103:4 209:16 227:16 228:5 299:5 300:5	program 31:25 68:7 133:24 136:7 141:23 146:25 179:3 281:7	public 31:6 86:16 138:15,24 140:5 140:16,19 158:3 159:16 224:1 256:8 299:10,18 300:15,23 301:23	148:1 162:23 249:7 250:12 261:15 265:4 269:21
procedures 107:9 107:9,12,18,20,22 108:15 109:4 111:24,25 115:7 115:13,21,23 116:5,7,12 287:19 287:20	projected 157:10	publication 10:4 10:11,23 12:3 28:8,14,18 33:13 175:18	purposes 147:25
proceed 83:23 109:19 172:23 198:11	promotion 20:17 266:19	publications 9:18 25:3 27:21 33:1 258:14	pursuant 296:8
process 15:7 22:24 24:9 34:20 51:7 57:18 58:3 60:25 83:22 84:5 100:5 108:22 141:23 208:18 209:9 215:5 221:16 226:14,17 280:1 288:14 291:1	promotional 265:15 266:3,6,11 266:14 267:12	published 32:15 32:21 173:24 174:4 178:14	pursue 54:24
procured 224:25	properly 46:22 47:6 76:2 176:12 198:21	publishes 201:8	pursued 54:20
produce 262:6	proportions 283:5	pull 51:17 108:7	push 45:20
produced 117:2 139:21	propounded 7:6 296:25 297:4	109:6 196:25 236:18 285:17	put 20:19 25:25
production 200:10 221:16 298:24	prosecute 253:5	pulled 142:3 163:11 177:8	29:18 50:19 56:15 57:24 65:14 81:9
professional 31:4 97:18 270:18 272:20	protocol 66:10,11	200:10,11 227:13 292:7,8	90:8,11,14 102:15
	provide 23:18	pulling 108:2 162:7	103:17 118:13 137:15,23 146:15
	45:19 73:22 146:8 147:20 262:5 279:8 285:5	purchase 218:13 219:6 248:21 251:3,7	149:12 159:13 177:5 190:5
	provided 125:21 125:22,25 128:7 148:11	purchased 81:4 248:23 249:1 251:5 256:25	192:11 201:1,2 219:19 236:20
	provides 40:8 44:1 69:14 208:5	257:3,4 298:17	242:19 245:10
	providing 139:5 148:6 149:23 150:25	purchasing 256:24 257:20	putting 138:4 139:3 233:5
	proxy 176:10	purdue 1:8 2:22 6:13	puzzling 30:8 207:22
			q
			qa 23:17
			qcs 23:6,7,8
			quad 215:23 219:19 249:11 256:23 257:8,21
			quads 248:23 249:6,16,20 250:7 250:17 251:3

qualified 296:6	253:1 257:5,6	ranges 98:15	react 208:3
qualitatively	263:10 270:17	99:12,15,25	reacting 209:2
40:20 214:8	271:3 274:1	100:10 101:8,15	reaction 255:17
quality 23:9,17	279:16 283:4,10	101:22 102:6,16	266:14
107:20 109:3,6,10	285:21 288:19	102:17,17,25	reactive 208:7
109:11,23 110:17	292:24 293:15,17	289:22,23 290:8	reactivities 218:2
110:23 115:23	questioning 95:9	ranjan 2:10 4:4	read 22:20 45:14
288:2	21:13,22 146:16	6:10,10 7:8,10	46:13,22 47:6
quantification	questionnaire	24:17 27:7 43:8	84:16 107:16
244:14	21:13,22 146:16	60:13,19 64:3	119:5,6,19 120:22
quantified 284:1	questions 4:4,5,6	72:11 98:14	140:8 174:12,14
288:16	7:12 9:1 21:19	102:10 113:13	175:22 176:12
quantifies 61:5	30:17 43:19	117:1,4,7 124:1,7	178:19 179:9
quantify 282:15	111:20 213:18	139:17 140:22	194:20 197:6,7,10
282:17,18 284:23	222:7 256:22	151:5 158:11	198:3,21 211:5
286:6,17 287:2	259:8,13 278:24	161:14 169:18,24	212:16 213:15,21
quantifying	293:11 295:12,13	171:8 173:16	222:5 225:8 233:3
281:21	296:25 297:3	180:10,11 184:1	242:23 255:4,5,7
quantitate 41:11	quick 60:13 229:6	184:15 187:15,24	271:6,9,17 299:5,6
41:24 108:11	286:24	191:6 194:11	readily 224:21
282:6	quickly 121:2	196:13 200:3	reading 48:5
quantitation	quite 74:17 77:6	210:5 213:10	98:10 213:22
129:10 211:24	quiz 23:16	217:12 221:11	215:1 298:12,20
212:7,12 282:8	quote 22:16	222:16 225:14,19	reads 96:20 97:2
quantitative	r	234:7,17,22,24	97:16,25 98:14
287:12	r 27:13,17,17,18	235:6,13 247:21	117:16 119:2
quantitive 287:5	27:18 68:9 260:22	254:23 256:17,21	191:14 212:17
quantitively 84:25	296:4 297:12	259:6	217:16
176:6 212:5	raised 263:10	rapidly 119:2,7	ready 187:16
quantity 56:6	ran 24:4 111:17	rarely 109:1	real 228:19 245:25
84:24 262:21	137:13,24 209:19	rate 256:9	realize 47:23
288:22 291:12,20	210:20,23 212:9	ratio 134:20,21	really 21:13 71:9
question 8:11,19	228:5	ratios 134:17	76:20 91:23 98:9
8:23 23:21 24:23	randox 217:16,24	raw 144:13 157:7	132:10 135:13
27:19 43:20 44:13	217:25 219:5	reach 95:23 172:7	147:4 221:5 229:6
62:6 104:24	randy 296:4	190:3 231:24	237:14 282:1
113:16 147:18	297:12	reached 171:25	289:3
159:8 168:22	range 98:20,20	172:14 178:10	reask 179:21
179:21,22,24	100:20,25 101:1,9	reaching 93:20	205:21 283:8
197:14 205:21,22	102:11 108:12	206:20 226:14	291:14
216:12 231:12	287:13	231:3,9,18 232:2	

[reason - related]

Page 42

reason 8:17 9:3 162:23 178:4 189:22 204:7 207:14 257:7 270:6 300:8 301:3	169:20 170:20 171:22 233:2 236:22 237:6,7,11 266:2,10 280:13	redacted 200:15 redistribute 66:24 redistribution 66:14,19,22 67:7 receives 44:20 53:10 57:16,19 58:5 67:16	reflects 152:5 168:5 177:4 179:7 refresh 193:4 256:2
reasonable 220:12 220:14	receiving 50:14,18 51:14 128:7 170:1 239:14 253:21	redline 204:3 reentry 155:18 refer 21:10 103:7 107:23,25 108:19 109:4 127:5	refrigerated 253:17 refrigerator 50:13 50:20 247:8
reasons 171:12 178:13 226:1 256:25	recess 60:16 124:4 187:20 225:17 256:19	reference 40:15,21 41:2,4 42:6,10,14 98:15 100:10	regard 132:23 regarding 151:8 266:13
recall 9:7 34:6 77:20 105:5 118:10,14 124:17 132:4 147:9 148:8 149:24 150:24 156:3,7 160:14,15 165:21 168:1,7 199:21 225:23 229:24 231:1,5,17 231:23 240:10 255:16 256:7 259:22 261:14 263:9,12,17,23 269:1 289:19 290:15	recognize 48:21 recollection 193:4 198:10 256:2 273:6	101:8,15 102:11 102:20,25 109:12 112:4,6,7,9 209:24 224:19,24 226:7 244:18 298:7 299:2 300:2	regardless 53:11 53:15 148:12 216:9 231:16
receipt 298:20	recommendations 160:19 231:5	referenced 261:23 298:11 299:11 300:15	regards 9:19 38:1 164:23 258:14
receive 15:25 39:13,16 41:5 50:13,19 51:1,22 52:14 57:24 65:10 68:5 70:6 90:10 104:17 128:1 142:25 162:18 188:17 261:12	reconfirm 111:1 record 6:3,7 7:10 8:2,4,12 9:13 14:12 60:15,17 96:12 105:22 117:8 124:3,5	references 101:18 139:23 214:3 267:25 289:19	regenerate 238:24 239:3
received 16:2,10 48:6 49:19 50:2 50:21 52:2,3,16,19 57:13 67:15,19 78:21 86:11 88:18 90:8 91:22 104:20 105:8 162:11,19	recordkeeping 192:1 records 52:18 90:4 90:16 91:13 241:20,24 242:16	referencing 98:17 143:11 185:9,13 255:20	rehabilitation 146:24 151:20
	242:18 243:15 263:2 264:20,23 274:15	referred 140:12 referring 96:12 101:7 107:22 108:14 128:2 197:13 207:23 219:2	relate 118:7
	red 202:11	refers 176:6 reflect 11:12 157:4 170:18 186:3 201:14 215:5	related 11:15 14:3 29:9 91:11 110:17 135:2,4,10 136:24
		reflected 99:21 110:2 116:22 166:4 177:16	142:18 146:14 157:17,19,21 174:17 176:17
			187:3 202:25 203:11,14 216:2
			231:6 253:2 255:24 265:24
			292:1,19 293:11
			297:7

[relates - requested]

Page 43

relates 1:6	233:25 234:1	168:19 169:2	86:5 101:10
relating 110:17	243:25 255:19	170:24 171:7	109:18 195:23
258:13	256:4 262:9	172:13 173:8	264:15
relative 29:5	263:20 264:2	183:9 189:8,25	reports 21:21
relatively 244:17	273:16,17 274:3	190:19 194:24	25:14 33:22,24
release 138:24	289:24	195:8,15 199:2,9	35:23 36:6 71:15
190:6	remembering	199:14 200:5	75:17 88:1,4
released 141:7	275:9	201:7 210:25	91:15,15,25 93:7
releases 138:17	remind 20:11	211:4,11,20 212:5	122:18 123:4,11
139:4 141:2,7	renew 16:11	212:13,15,17,19	126:24 134:16
164:3,5,22	reopen 228:17	228:8 230:16	146:19 147:3
reliable 98:3,11	reopened 228:13	236:10,18,25	161:5 162:10
reliever 174:23	reopening 228:15	237:6 238:16,18	163:1 165:19,20
rely 32:15 91:8,10	repeat 101:6	238:25 239:3	166:1 171:13
91:13,14 290:21	110:21 288:10	244:3,18 245:18	177:7 179:17,19
remainder 174:20	repetitive 110:5	245:19 246:9,15	179:20 181:15
remarks 297:1	rephrase 8:22,25	262:16 264:3,7	184:10 188:25
remedy 217:22	113:16 133:5	273:7 279:12	191:15 194:4
remember 9:20,23	reply 7:5	280:10,12,12,21	196:25 197:4,19
11:4,6 16:1 21:12	report 4:25 22:12	281:3,5 284:4,4,6	197:24 229:19,23
30:11 33:12,18	22:22 24:7 25:24	284:8,9,10,16,17	238:4,11 239:19
43:23 48:25 49:3	26:11,11,12,16,17	284:17,18,22	241:16 244:24
57:2 76:21 89:23	35:12,14 41:15	285:19 286:20	246:5,8,18,19,20
105:7 109:21,22	56:13 57:8,17	287:8,23 288:5,7,9	274:5,8 282:24
111:10 112:15	58:2,6 68:18	288:21 289:13,17	represent 7:11
113:3,22 116:20	70:11 73:14 76:5	291:5,23	154:7 166:16
131:15 138:19	81:11,13 82:8	reportable 211:15	191:21 259:11
149:15,21 150:6	84:15,18,25 86:2,3	reported 26:13	representative
153:3,8,10,12,13	86:12,13,16,21	84:12,14 87:10,14	154:2 265:11
153:16,20,21	87:3 88:12,20	91:18,18 98:15,22	representing
154:10,12,19,25	89:17,20,24 90:23	99:5,7 111:15,19	189:19
155:2,8,10,13,13	92:8,24 93:5,18	115:1 123:24	represents 179:5
155:14,17 158:19	94:6 95:10,15	134:18 138:3	186:9 188:13,20
162:6,7,9,19	96:9 97:10 100:7	165:15 186:12	202:16 205:7
163:13 167:4,5	100:16 101:3	189:23,24 196:5,6	request 53:4 56:23
172:2,5,25 173:2	104:8,15 107:17	196:7 229:6	112:22 163:1,3
181:10 182:4	114:17,20 127:3	296:21	271:4 273:21
185:1 194:7 195:7	134:25 143:6,12	reporter 6:22 7:21	274:5 281:22
228:22 230:2,4,19	143:13,17 158:25	296:5 299:7	282:19 300:9,11
231:4 232:8,12,12	164:19,20 165:12	reporting 18:9	requested 51:3
232:18,23 233:24	165:17,23 168:5	19:23 22:11 84:4	52:5 162:20 190:2

[requested - right]

Page 44

280:17	responsible	retrospective	111:8
requesting 162:24	205:25 260:7	227:8,11	reviewers 26:18
requests 67:22	responsive 179:22	retrospectively	reviewing 15:12
228:16 274:8	rest 249:25	227:15 275:2	20:1,6 22:10
require 94:17	result 46:3 54:5	return 129:6	27:23 71:1 75:16
223:24 224:17	55:23 57:12 61:17	returned 298:19	78:7 100:12 108:7
required 209:8	85:14 87:2,10	review 12:1 14:5,8	109:24 151:23
223:23 244:16	92:19 94:4,5	15:9 20:4,8 21:8	182:8 190:16
267:8,12 298:25	100:6,15 110:15	21:19 22:15 24:5	262:25
requirement 16:4	137:16 145:9	25:13,17,18,24	reviews 24:1 26:21
198:15	171:3 210:25	28:7,10,15,19,23	27:9,16 91:25
requirements	212:18,19 221:15	29:18 33:3 59:19	104:17 105:13
211:24 246:15	248:8 253:3	59:21 68:18,20	reyes 154:11
286:19,22 287:22	285:15	86:1 90:19 92:1	rice 3:10 6:16,16
288:1,4	resulted 105:24	95:23 101:1	295:12
requires 178:18	results 11:11 26:4	109:25 111:3,6	rico 27:12 188:1
residential 14:15	36:2 45:19,23	115:12 136:18	210:12
residents 113:7	46:7 55:9,16	139:7,10,14,23	ridge 2:6
resolution 218:12	63:17 66:2 67:3	145:11,15,21	right 13:2 14:19
249:2	71:6,10 72:14,16	146:1 147:5,23,25	25:18 36:13,14
resources 76:1	78:16 84:4 86:4	151:8,9,13,17	37:1 44:22 45:17
220:24	86:19 87:20 94:14	156:4,19,22 160:5	45:18,20,23 48:4
respect 272:24	94:19 96:2,8,22	161:17 163:1	49:6 50:5 53:12
291:18	97:17,21 98:12,24	167:3 175:14	61:1,5,10,21 62:1
respects 297:2	99:15 101:10	177:6,9,14 181:8	62:15,18 63:9,14
respond 195:6	120:15 175:23	182:2,6 194:1,1,4	63:23 64:7 67:3
244:15 254:15	178:2 189:12,13	213:16 231:1,2	67:20,24 72:8
responded 254:10	189:23 207:22	240:4 261:16	73:14 78:19 79:18
responders 149:7	224:15 240:14	263:6 274:18	80:25 86:5 90:22
149:13	241:10 283:6,21	285:18 298:14	91:1 92:4,11
responding 137:20	283:25 284:12	299:1 300:1	95:23 96:5 97:10
197:23	285:16	reviewed 10:11,18	99:17,19,23
responds 185:3	retail 234:2	10:19 12:3 29:8	105:24 106:2
198:5,8,23	retain 116:18	30:1 76:5 110:20	118:8 119:15
response 269:1	retained 243:24	156:17 160:9	120:20 121:13
responses 8:6	244:1	174:11 175:12,17	123:24 124:10
160:13	retention 82:22	199:5 200:24	133:10 134:9
responsibility	212:12	201:6 232:16	136:3,24 141:12
248:3 272:23	retroactively	261:19 285:14	143:22 145:3,12
273:13	133:21	reviewer 26:14,15	145:18 149:4,19
		26:20 85:5,13	158:6 160:21

162:13 163:18	road 2:6	80:2,12 85:19	samples 15:6 23:9
167:21 169:5,8,14	rocker 2:7	110:21 111:21	23:23 24:2,4
169:21 170:21	role 5:6 46:19	115:16 134:1	38:15 39:1,6,9,16
171:4,16,21 174:1	177:25 179:2,15	146:23 189:20	40:22 50:19,21
176:18,22,24	180:1,13 181:14	211:16,19,20	51:10,12,13,21
177:6,17,20 178:7	221:19 251:14,16	215:3,14 217:9	52:15 53:1,2
180:2,23 181:2	252:2,3	218:17 219:6,8,10	56:14,23 57:17
182:20,21,23,24	rose 153:15 172:9	219:17 226:11	64:6,16 65:16
183:1,14,17 187:5	172:9 173:5	228:5,18,19	66:6 67:2,6,11,16
189:8 190:11	174:18 175:23	239:19 246:14,16	67:24 68:6 89:23
194:15 196:17	232:6	250:3 253:18	112:5 116:18,21
198:6,24 199:6,10	rotate 59:9	281:23 285:6,9,9	120:4,6 121:7,13
200:23 203:15	rotates 58:17	285:10 288:6,11	122:10 123:17
204:10 206:15,18	rotating 58:14,23	running 71:25	141:18 224:25
206:21 207:6,14	59:14	82:12 100:18	247:4,23 261:11
207:20 208:22	roughly 48:3,16	107:24 110:14	261:11
210:21 211:1	48:18 166:8	114:13 129:3	sat 150:4
216:17 220:16,22	250:22 254:4,11	167:14 189:9	save 243:7
221:24 229:3	rounded 58:18	209:17,22 226:17	saves 56:24
248:4 250:25	routine 224:6	227:4 249:23	saw 19:3 114:14
257:1,9 259:6	279:20	runs 74:22 156:1	139:12 156:21
273:3,17,22 275:1	routinely 75:7	209:20	176:16 189:3
275:2,18 276:7	80:14 90:19	rush 138:21	202:21 229:23
277:5,17,20 278:6	228:20 236:6	rushed 80:23	saying 20:22 26:6
280:21 282:12	247:22 275:21	s	52:25 56:11 65:8
284:14 287:14	rpr 297:12	s 27:6,6 74:24,25	85:24 87:11 97:6
288:13 290:13,24	ruin 83:15	153:25 260:22	98:10 115:15
291:1,8 292:12	rule 121:25 122:4	300:8,8 301:3	122:16 136:19
294:3	122:14,21 123:2	salicylate 35:2	150:16 181:24
rindi 27:12 140:3	135:4	126:1,8 128:22	182:12 196:24
141:12 144:1	ruled 123:7,17	129:9,18 130:4	204:11 206:9,10
175:8 188:1 189:8	133:1,9,18 159:22	sample 41:17	206:12 212:8
210:12 241:4	rules 7:17 299:5	52:25 56:7 57:20	215:24 216:6,20
rise 157:5 174:16	300:5	58:5,22 65:19	218:12,21 219:3
174:24 175:1	ruling 132:3,12	66:9 69:3 72:22	219:15,22 220:2
176:3 178:4	rulings 121:20	72:24 83:12,15	264:3 283:10
203:11	run 22:22 23:13	88:5,17 89:19,21	287:9 289:1
risen 178:9	23:14,19,23 53:25	90:1,3,9,10 110:21	says 7:5 37:21
rising 140:1,1	54:12 57:5,12	119:15 120:12,13	45:10,16 46:14
river 2:7	64:5 65:12 66:7	228:18 282:2	53:19 61:8,12
	67:24 68:19 69:18	288:10,11	63:16 64:3 86:17

93:13 96:24 98:3	210:13	215:7 218:7	113:1 120:16
99:22 121:5,9,12	science 37:25 38:8	226:15,18,21	124:21 128:15
121:15,19 123:22	45:12 109:8	228:21	129:16 130:25
139:25 141:20	sciences 42:3	screenings 208:15	131:7 132:17
142:2,7,17 144:21	scientist 18:6	208:19,24,25	134:19,22 135:15
153:8 158:24,25	19:20 20:10,13,23	screens 26:5	135:24 137:15
163:14,17 174:14	20:24 21:5 26:25	189:12,24 281:23	147:3 148:2
177:25 179:1	27:8,15 59:5,11,20	281:24 282:6	156:15 157:6
180:20 188:11	251:25	286:5	159:1 160:25
189:18,18 191:10	scientists 102:24	script 193:18	161:9,18 162:2
192:15 193:15	scope 47:9 78:17	scripts 193:15	164:3,12,22
198:5,8 211:8	86:14 113:11	seal 299:15 300:21	167:17 168:5
212:20 214:7,7,18	140:18 222:15	search 128:16	173:22 183:8
215:11,25 217:19	234:5 235:11	134:2,9 136:13	184:21 186:5
222:8 280:4 282:9	260:2 269:7 273:1	137:14 142:2	188:3,7 189:1,17
scan 128:11	292:22	237:15 241:3	191:11,19 192:22
240:24 245:17	screen 35:1 41:24	searches 136:7,10	195:3 197:17
scanned 281:8,10	42:2 54:5,6,9	second 29:23 51:6	200:7,22 201:24
scanning 245:14	56:11,11 58:21	63:8,11,13 81:17	202:7,14 203:6,22
scene 41:8 68:13	65:22 78:19 79:20	81:19 89:18 97:25	204:1,5 205:5
69:13,24 70:7,7,21	125:20 126:10,16	119:19 175:20	208:6 210:11,14
70:22 72:7,13,15	126:18 127:21,23	196:20 210:8	211:12,18 212:5,6
73:12 74:14 75:17	128:5,6 130:1	215:11 225:15	212:10 213:13,21
76:5,9 77:4,13,15	131:2 190:20	249:11 250:19	214:10,16 215:16
77:16,19 78:5	207:12,16 214:4	251:5 252:4 257:2	216:18 217:17
79:16 129:19	216:23 217:20	290:18	228:6,13 229:5,11
138:20 143:14	218:2,15 226:10	section 86:16 94:5	233:24 236:21
197:1 207:24	226:12 282:10,13	94:8 222:1	237:10,15,18
208:3 239:12	283:20	sections 242:10	238:8 242:19,20
264:13 278:11	screening 53:19	sector 224:2	244:16 245:7,11
scenes 74:18 76:25	53:20,25 54:12	sedation 225:1	247:25 255:8
77:6,10,12,25	55:1,15,23 56:3,5	sedative 223:14	256:13 262:14,20
schedule 60:2	57:4,12 61:2,8,8	see 7:20 11:19	277:3,6,9,19
223:12	61:16,20 64:17	18:19 23:6 27:25	280:15,17 281:12
scheduling 13:10	66:7 78:17 79:23	41:11,21 45:12	283:5 289:20
225:7	80:3,15 124:13,14	68:15 69:6 70:10	291:25,25 292:5
scheme 49:5	124:18,22,22	71:10 72:22 80:8	seeing 69:3 77:9
schneider 269:19	125:8,14,17	80:19 82:22 87:3	135:17 163:8
school 18:15 19:7	127:15 130:6,10	87:10,17,20 95:17	167:4 172:13
schueler 36:16,18	130:18,19 131:13	101:7 103:12	190:11 205:19
37:4,11 42:17	131:17,21 207:21	110:25 112:11	206:7 209:7

[seeing - similar]

Page 47

216:19,22 225:21 227:10 229:20,22 230:12 233:17,25 250:25 254:7 255:16 256:6,15 277:18 seek 72:16 73:7 seeking 72:19 169:12 seen 33:5 37:20 39:19 41:23 81:1 94:7 102:1 107:3 114:25 123:3 132:12 133:14 174:15 201:4 221:21 227:1 265:15,20,21 271:17 273:7 segments 37:18 seizures 131:8 select 68:1 242:7 selected 270:8 self 165:15 send 38:14,17 40:20,25 41:4,12 41:16 42:2,20 70:15 80:9 82:16 82:24 83:3,5 129:10,15 244:14 244:17 sending 42:10,21 81:5 82:3,10,13,15 82:19 112:5 209:23 sends 189:8,10,11 sense 7:25 8:14,20 8:23 26:8,10 110:4 144:16 sensitive 98:3,12 223:22 257:24	sensitivity 63:13 214:15 sent 39:9 43:24 51:12 52:1 83:2 112:10 117:11 151:11 156:11,20 184:24 191:9 229:9 249:3 282:8 sentence 176:8 197:13 215:25 separate 50:24 52:23 79:23 89:2 september 17:17 17:20 117:13 168:4,7 255:2 series 30:17 284:23 serum 89:2 serve 104:11 112:4 112:7 served 34:1 103:25 273:11 service 272:15 serving 38:11 session 264:20 set 21:15 23:14 30:14 59:23 60:2 63:3 68:24 99:25 100:13 101:14 103:10 106:13,13 110:20 111:8 116:6 118:6 134:13 136:16 145:8 158:8 161:11 173:11 174:3 187:16 191:3 193:20 196:2 199:25 211:19 246:23 296:24	sets 115:22 116:4 seven 279:2 285:22 severely 86:24 sexual 15:3 38:15 240:22 shannon 184:18 185:5 188:2 190:1 194:13 196:9,16 197:15 198:23 210:12 211:8 255:1 share 198:9 257:25 258:9 shared 199:19 258:9 sheet 52:3 276:24 300:7,10,18 301:1 sheriff's 38:20 154:3,7 shifting 178:17 shifts 74:17 174:24 shop 197:2 shoppers 172:18 shopping 169:13 171:16,18,20,20 171:23 172:1 198:14,18 199:4 199:18 263:15,18 263:24 264:4 short 76:10,14,21 76:22 108:2 120:25 190:7 218:9,12,16 shorten 222:23 shorthand 296:22 show 26:17 85:18 85:23 95:10 117:7 134:18 158:3 176:3 179:18	184:25 221:11 246:1,9 254:23 280:11 showing 51:25 105:4 158:11 180:4,16 185:23 200:3 217:12 278:10 shown 105:3 296:20 shows 26:17 89:24 135:12 236:19 246:6 side 51:25 52:3 56:10 154:23 174:1 sign 25:23 36:9,11 148:25 signature 37:20 239:2 297:11 298:14 signed 20:3 22:16 23:1,13,16,21,23 23:25 24:5,9 34:20,22,24,25 35:1 60:3 93:9 175:15 180:22 238:21 299:13 300:18 significance 225:4 significant 13:17 220:12 221:6 223:17 250:24 254:6 significantly 36:10 141:6 175:24 signing 25:13,14 35:22 36:5 60:1 298:12,20 similar 21:25 59:3 93:17 96:19 99:16
--	--	---	--

160:4 176:3	small 65:23,24	270:23 277:15	107:8 110:24
178:16 193:21	120:23	281:7 283:8	114:11 124:25
219:25 223:15	smaller 77:23	287:13 288:18	127:11 143:10
similarly 8:2	smith 272:17	293:13 294:23	181:10 182:4
143:20 170:17	smoothly 7:18	sort 31:24 40:25	204:16,16 230:20
simply 179:7	sofalui 109:14	48:8 49:13 67:10	231:5 237:10
198:15	sofalvi 27:1,6	67:19 73:8 79:15	241:9 244:20
sincerely 298:23	soft 217:25	115:22 128:1	265:18,22,23
single 282:25	software 68:10	144:20 151:11	266:5,9 281:20
sir 298:10	soiree 273:20	164:23 168:3	285:13 290:6
sirn 260:21	solely 92:19 97:3	174:2 190:10	specifically 9:20
sister 294:7,13,22	97:10 235:4 241:6	203:4 215:18	43:23 49:22 62:5
294:24	solutions 298:1	228:3 268:2	62:25 64:12,24
sit 151:24	301:1	281:17 283:19	67:25 68:16,25
site 89:13	somebody 23:1,13	288:9 290:13	72:16 73:6 87:1
sites 117:17	99:5 100:13	sound 296:16	88:10 94:15
situation 21:25	103:15 110:14	sounds 14:12	101:19 112:15
199:22	126:14 142:22	71:19 212:10	114:14 116:14
six 16:5 29:11	147:15 160:2	214:22 252:17	131:7 132:13,14
144:23	170:7 196:7	270:23	133:14 138:18
skip 118:17	260:21	sources 98:21	139:13 143:9
119:17 157:9	sop 22:20 102:9	103:7 159:20	145:23 146:11
273:18	108:3,7 109:1,6,24	space 253:18	148:4 149:15
skipping 176:8	110:12 116:15,22	279:6	153:12 154:25
slide 43:20 44:6	sophisticated	speak 7:24,25	156:20 157:23
46:9 47:18,19	224:17	13:16,19 54:22	160:15 162:7
49:4,7,16 56:10	sops 109:12,25	195:12 230:10	163:6 172:5 187:9
60:21 63:16 64:3	112:3 116:23	265:11 268:20	189:14 207:15
93:12 96:12,17,18	sorry 10:6 11:25	279:23 288:24	212:25 233:22
97:22 99:22	52:14 53:9 54:10	speaking 7:23	283:13
118:18 119:18,24	84:13 89:18	14:23 35:20 46:24	specification
121:4,22 123:22	103:11 117:25	51:21 76:18	256:16
141:15 143:24	118:1 121:8,9	118:16 127:6	specificity 63:12
144:21 200:18	125:12 130:22	236:8 246:21	specifics 25:5
slides 28:7 62:12	140:1 141:4	spec 219:16	105:7 173:2
63:6 97:24 117:22	144:10 155:13	special 44:11	specify 54:7 89:8
118:6,11 120:23	159:2 166:14	specialized 16:18	133:15
131:25 139:24,25	195:22 200:20	specific 41:7,9	specimen 40:25
slight 93:14	201:13 202:2	55:5,6,7,11,19	49:18 50:2 51:1
slightly 165:4	219:17 223:8,10	59:7 63:18 64:16	65:9,10 69:9 88:7
257:5	226:20 251:15	65:9 66:21 68:3	112:11 142:25

[specimen - submitted]

Page 49

261:12	115:20,23 116:5	299:10 300:15	stop 36:5 124:2
specimens 15:1	116:11 171:19	stated 255:13	175:6 224:7
47:22 50:6,7,12,17	220:3 287:19	264:7	stopak 74:23
51:5 57:9 58:6	standardization	statement 21:6	196:17
65:13 66:23 88:23	132:1,7	63:18 222:12,18	storage 56:15
89:14 218:6	standards 87:9	223:1 268:3	57:10 247:10
280:13	105:1 172:21	299:13,14 300:19	253:18
specs 218:1	224:21	300:19	store 242:21 243:4
spell 22:5 27:2	standpoint 224:16	statements 256:8	243:6
spelling 27:4,10	225:3 286:4	states 69:12	stored 236:9,13
spells 269:18	stands 21:12	175:23 255:9	238:4,11,19
spend 279:2	218:11	stating 23:18	240:17 242:12
spends 220:11	stark 39:6 80:22	52:15 63:20 87:4	245:1 246:17,20
spent 21:18 40:12	113:4 230:3	180:4	246:22,23 247:5
221:2	start 7:13 53:9	statistic 136:6	stores 238:14
spike 202:13,21	128:5 208:16	statistical 137:14	storing 242:11
203:21 205:4	216:12 228:20	137:24 141:22	straight 284:22
split 204:14	229:10,22 237:7	175:8 241:1	street 3:5 296:13
spoke 217:24	279:3	statistics 47:19	streets 139:1
spoken 255:12	started 11:19	133:24 134:1	strike 53:9 113:16
spot 237:20	16:23 17:22 37:15	141:25 156:12,13	structure 115:20
252:15	59:2 60:9 75:3	156:23 157:2	student 167:6
spouse 13:17	77:2,11,11 80:18	159:7,13 160:7	studied 113:17
spreadsheet	81:3 136:25 137:3	161:24 162:1,5	studies 113:13
102:15 191:22	147:7 183:3,9	166:5 177:4,16	211:16
192:15 290:14	203:10 217:8	185:16 241:14	study 98:25 142:4
ss 296:2	227:10 229:20	283:2 291:24	176:6
staff 50:19 51:14	249:8 250:15	stats 159:18	stuff 38:19 70:16
230:14 248:16	251:19,24	163:11 169:3	147:14 270:24
276:11	starting 71:22	292:7	279:17
staffer 140:3	215:25 216:11,13	stay 143:5 154:16	subject 117:13
staffing 76:10,14	268:13	stays 142:17,21	139:21 188:5
76:22,22 275:25	starts 49:18	steady 96:11,14	194:14 210:18
278:15	193:16	step 57:13 63:8	217:15
standard 22:20	state 15:21 17:18	216:19	submission 253:7
67:10 70:19,23	52:21 76:8 96:11	steps 18:6 19:19	submissions 71:12
78:11 81:4 82:21	96:15 195:24	22:19,25 23:4	71:14
101:18,24 103:3	196:5 199:3,9,14	49:23	submit 267:8,12
107:9,12,18,19,22	260:1 271:13	stint 18:1	279:17
108:15 109:3	273:8 290:12	stood 29:14,17	submitted 39:6
111:23,25 115:7	296:1,5,10,14		

subscribed 299:10 300:14 301:21	suit 297:6 suite 1:23 2:6,12 3:5,12 50:8 298:2	110:4,19 113:5 126:20 129:18 133:6 143:8	swear 6:22 switched 58:8 sworn 7:2 296:18 299:10,13 300:14 300:18 301:21
subset 82:10	summarize 44:15 147:17 192:12 201:5	147:10 148:17,19 148:19 149:15 167:1 172:15,24	synthetic 222:16 223:3
substance 41:1 61:3,4,5 100:2 101:9 114:19 170:19 178:2 183:3 228:3 247:15 288:15	summarizes 140:5 summary 144:17 191:17 236:19,22	179:21 181:9 184:3,8 185:1 187:18 193:11	syringes 79:15 system 50:25 53:7 53:15 57:25 59:2 59:24 99:2 101:11
substances 46:17 69:24 120:5 127:2 128:9 130:10,11 147:4 179:8 206:21,24 212:25 213:2 214:4,23 215:2,3 247:22	summer 31:19 37:6 59:23 229:17	194:6 197:10 198:11 205:22	142:24 143:4 165:24 197:5,20 269:20,24 270:1,7
substantial 71:24 186:22 187:10	summit 80:22 113:4 230:3	212:10 214:2 219:1 227:13	systems 239:25 270:4
substantially 223:4	super 96:14 superior 298:1	228:11,12 229:1 235:20 239:15	szab 217:22
suburban 175:4	supervising 19:23 20:2	250:18 256:12 258:22 262:18	szabolc 27:1 59:12 59:16 109:14
suburbs 145:5 154:23	supervisor 13:8 18:11 20:8 26:21	263:7 265:17 290:7 292:23	szabolc's 217:23
succinctly 140:5	35:10,14 85:11	surgeon 33:24	t
sudden 44:11 205:2	268:23 279:22	surprise 180:19	t 68:9 74:24,25 155:20
sued 233:22	289:2	surrounding 96:21 229:20 230:22	tab 191:17,22 237:17
sufficient 101:11 198:20 282:2 288:16,21 291:12	supervisors 105:9 140:23	survey 168:9 suspect 122:25 135:24	table 176:7,20 177:4
suggested 136:13 214:22 215:1 273:12	suppliers 224:22 supply 272:13	suspected 40:18 80:9,15 82:4,9 83:8 120:4 123:15	take 8:8,10,12,16 23:16 24:22 43:9 43:18 60:13 81:15 81:20 85:25 94:17 96:7 141:9 143:17 151:13 163:6 167:16 168:20 180:7 187:15
suggestion 232:8 272:22	suppose 102:7 226:12	132:3 133:7,19,22 134:14 135:9 136:3,17 263:14 263:18,24 264:4 264:16	195:8,15 197:5,10 197:19 198:19
suggestions 150:15	supposed 242:14 262:22	suspecting 52:7 suspicion 44:13,21 44:24 79:6,10	206:11 213:23
suggests 178:11	sur 153:1,2	suspicious 45:2 79:2,4	262:5 272:19 289:10,13 293:7
suicide 44:10 106:4,20	sure 18:7 20:7 26:2,4,5,8,12,16		
	27:11 37:14 39:20		
	49:25 54:10 64:2		
	74:16 76:7 82:13		
	90:5 92:23 101:23		
	103:1 106:12		
	108:12 109:25		

taken 7:14 16:14 262:22 293:4,22 298:11	technical 274:1 techniques 64:17 124:19	131:13,17,21 183:13,16 207:12 208:5,9 216:16	83:3,23,25 84:1,3 84:7 85:21,24 86:14,25 87:21
takes 65:22 144:14	telephone 6:18	219:23 220:4	88:1,5 92:20
talk 13:25 35:25 67:12 109:11 112:22 131:16 136:21 140:1 172:11,15 231:25 232:3 235:13 240:13 279:10,13 284:9,17	television 265:24 tell 25:19 27:5 34:21 40:5 49:19 55:13 56:6 66:1 69:18 86:13 126:23 127:6 168:18 180:18 183:2 193:7,9	224:15 226:18 249:20 257:1,8,17 261:10,13 282:19 284:22 290:6 tested 47:21 64:10 249:19	104:4 112:25 119:22 120:3,12 125:11 126:1 127:19 128:2 129:4,6 143:18 207:9 216:3 217:1
talked 9:21 13:8 14:11 30:15 32:14 34:19 44:8 102:23 103:21 105:21 107:8 112:5 115:8 124:13 131:24 137:12 207:11 225:25 237:25 243:19 247:3 254:19,20 258:4 265:1 270:18 281:15 282:21 284:4,5,16 291:24	telling 55:3 165:25 185:1	233:12 241:8,11 275:25 289:18 296:20	224:14,15,19 226:2 223:23 234:16 240:15 246:13 250:15
talking 30:7 57:20 62:23 65:1 99:3 118:3 150:7 160:1 173:3 211:14 225:20 267:23 276:17 283:20 284:9 286:10	tells 22:21 67:23 101:19 108:3 120:8	testify 7:3 9:3,8 104:3 296:18	257:13 280:5 281:22,25 282:3,4
talks 150:7	ten 75:6 287:1	testimony 14:5 34:11 71:18	283:6,22 284:12 284:21 285:17
tamarack 14:17	term 56:15 115:25 122:8,22 274:1	103:20,21,21 124:9,12,17 132:4	286:6,25
targeting 128:12	terminated 260:19	133:9 259:22	tests 47:21 48:4,19
task 97:17 155:1,2	terminology 275:2	261:14 271:14	57:6 58:10 61:20
tasks 21:18	terms 101:8 118:3 134:10,10 168:10	278:20 284:16 296:21,24 299:6,7	62:25 63:3 66:7
taxpayers 40:9	211:15 220:23 250:2	300:6,9,12	67:23 68:3 69:19
teach 23:2 37:8	terrible 163:20	testing 15:22 16:4 25:22 26:2 34:20	78:18 89:4 124:13
team 96:24,25 97:1,18	test 8:9 16:14 27:4 35:2 40:19 53:19	40:1 41:14 47:3 47:10,14,15,16	128:23 197:24
	53:20,25 54:12 55:1,23 56:3,5,5	51:2 52:4,21 53:5 53:21 54:3,6,14,15	208:20 226:10
	56:11 57:4,11	54:21 55:17,25	245:23 246:2
	61:2,3,8,8,9,16,17	56:2,13 57:8	283:7
	65:16 67:6 69:9	58:22 59:7 60:22	thank 23:22 27:7
	80:2 84:8 94:20	62:14 63:8 64:6	62:11 118:5 167:9
	114:22 120:14,19	64:20,23 65:1,5,9	173:18 206:15
	125:24 126:10,17	65:21 67:22 68:19	259:8 270:12
	126:22 127:6	68:22 69:15 72:14	thanks 53:18
	128:21,22 129:21	72:23 74:5,10,11	175:6 198:2
	130:2,21 131:5,9	78:4,8,12 80:23	214:18

thereto 297:2	225:25 228:4,23	119:6 120:5	255:22 256:24
thing 48:8 67:6	229:1 232:22	189:16,19 192:23	259:8 262:10,12
164:9,23 184:6	235:15 236:9	200:19,23 214:23	262:13 263:25
188:9 193:15	237:20 238:2	215:12 216:6	268:24 274:20
213:22 231:22	239:6 242:13	222:1 251:20	275:16 276:6
290:1	243:17 247:2	254:1,3 269:14	282:1 285:22
things 8:2 78:18	250:18 251:11,12	285:13 295:8	293:23
93:25 95:20 107:3	251:23 252:5,8,13	tie 234:8	times 34:2 43:3
125:2 129:16	252:13 254:14,17	tim 153:23 154:4	61:19 75:10
151:19 181:23	254:18 255:23	time 8:7,10 18:9	119:10 168:2,7
256:13 259:14	257:6 258:7 259:7	19:17,22 21:18	207:12,17 241:16
289:13	264:11 265:17,21	22:8 36:12 42:7	292:11
think 15:22 18:4	265:22,23 267:22	42:15 44:3 53:1	timing 36:23
19:14,19 20:6	268:24 270:2	57:2 58:7 70:5,6	116:20 120:19
31:19 32:23 33:3	271:2,6,14 273:21	77:15 80:16,25	167:23 168:10,11
35:7 36:16 37:6	276:5 288:25	82:23 89:25 90:3	tired 270:16
37:15,16 39:5	292:6 294:8 295:1	90:7,8,9,12,14	tissues 46:19
45:8,25 64:24	295:7,11	92:25 93:4 94:16	66:24
67:8,19 71:16	thinking 170:12	104:23 105:4	title 9:23 11:2
73:1,2 74:25 78:9	195:4	108:6 113:14	20:11 30:12
94:8 102:2 103:10	thinks 95:18	114:7,12 115:8,21	141:10 221:19
104:1,18 106:10	third 47:2 98:14	116:12 124:2	titled 45:10
109:6 112:8,19,22	127:24 174:20	130:9,17 131:13	titles 11:4 30:9
114:11 116:17	thirty 298:19	131:20,22 136:22	today 7:12,17,21
121:4 122:5,13,16	thomas 139:19	136:23 140:16	9:4,16 12:8,21
124:1 126:23	151:7 188:1	151:13 154:6	13:20 14:6,9
127:12 138:10	210:12	162:20 167:11	27:24 48:10
139:12 140:5	thought 107:6	172:4 178:21	174:11 210:24
144:20 147:14	129:23 180:16	179:11 180:11	261:24 284:17
148:1,1,12 149:4	194:21	190:7 196:3	today's 6:2
150:1 151:15	thoughts 292:15	197:10 202:13,21	tof 218:9,9,11,16
154:1,25 156:9,25	292:20	203:13,20 209:8	told 22:10 64:5
167:7,11 171:22	thousand 100:22	209:12,15 212:12	113:21 137:12,18
180:8 182:14	101:5	212:24 213:23	137:22 171:23
189:1 190:12	thread 184:18	215:6 218:10	238:15 244:2
198:9 203:8	191:8 196:14	219:9 220:6,8,12	tolerance 94:12,15
206:10 207:3,10	210:8 211:7	226:5,10,13,15,22	94:20,23 95:4,12
207:11,21,23	213:20 255:1	229:8,19,24	95:17,20 96:7
208:17 209:21	three 27:8 31:17	236:20,23 240:6	99:4 148:14,16
210:20,25 211:10	34:2,12 107:14	250:22 251:6,7	150:3
213:24 224:9	115:22 116:4	254:4,5,11 255:22	

[tom - trying]

Page 53

tom 198:20	251:17 268:24	242:2,5,6,10 243:1	trend 137:21
ton 242:15	270:6 279:15,18	243:11 244:3,21	138:16 157:4
top 28:3 86:17	279:23,25 283:22	245:19,21 246:25	176:3 178:17
88:20,22 155:16	284:7,25 285:17	248:13 251:9	trends 176:10,11
210:8 211:7	286:18,21 287:4	252:19 258:6,6,18	190:10
213:20 215:10	289:12 291:2,5,10	260:17 270:10	trial 215:18
232:21	291:16	275:11,11,12	296:11
topic 10:5,14 33:2	toxicologist's	279:3,12 280:4,10	tricyclic 127:9
146:11 232:10	245:10	280:21 282:24	tried 21:15 240:3
tops 88:24	toxicologists 65:15	283:6 284:10,18	240:5
total 157:13 165:6	67:17 78:7 86:5	290:16	triple 215:23
166:21,22 186:7	93:1 102:24	trace 211:3,9	219:19 248:23
201:21 202:8	toxicology 11:11	tracks 235:21	249:6,11,16,20
292:9	17:19 19:4 20:14	trade 223:16	250:7,16 251:3
totality 92:7,14	24:13 25:14 35:18	trail 14:17	256:23 257:8,21
totally 8:8	36:2 37:18,21	training 16:19,20	true 9:14 24:11
touch 154:16	44:3,16 46:7,9,13	22:18 30:16 31:13	63:17,19 69:23
253:9	46:14 47:11,17,19	31:15	99:20 178:21
tox 125:5 141:22	47:20 49:5,9,13,14	tramadol 170:9	179:25 180:11
237:6 279:16	54:4 57:15 64:25	tranquilizer	204:11 207:8,10
284:5 286:4	68:1,2,19 69:15,25	220:19	297:2
toxic 46:18 102:17	74:1,5 78:17 83:9	transcribed	truth 7:3,3,4
toxicity 225:5	83:24 84:15,18	296:22 299:7	296:18,18,19
toxicological 78:4	86:3 88:1,4 89:17	transcript 296:21	truthfully 9:4
78:8,12 87:21	89:20 90:23 92:8	297:3 298:11,16	try 7:24 8:5 18:19
104:8 240:15	92:20,24 93:5,7,18	299:5,12 300:5,11	21:14 77:13 80:23
toxicologist 12:24	95:22 96:1,9,22	300:17	122:11,11 126:21
13:1,4 14:21,24	97:10 100:1,7	transferred	147:6 216:16
18:10 20:7,11,25	104:4 112:2,6	142:22	217:1,5 253:9
22:1,3,8 29:16,24	114:17,20 119:19	transition 179:6	270:21 288:7,11
32:16 35:13,16	121:10,24 122:6	transitioning	trying 31:23 42:18
36:8,13,17 37:1,4	122:20 125:8	178:12	48:25 49:2 58:15
37:10,13 42:15	126:24 127:3,18	transitions 178:15	73:7 77:12,18
54:1 58:1,5 60:6,8	133:25 134:16,24	trap 249:1 250:10	98:19 138:24
60:10 74:8 78:3	140:2 181:18	treated 79:22	164:14 184:24
83:18 85:12,25	202:20 207:9	treatment 31:11	197:8 206:23
86:20 87:23 93:22	212:15 219:11	32:17 121:16	215:7 216:21,24
93:24 94:9,13	224:6,10 225:11	151:20 170:15	217:21 220:12,25
95:5 100:4 101:12	235:23 236:2	171:3	233:15 253:5
125:7,10 138:9	237:13,24 238:11	treatments 32:7	286:24
222:20 230:10	240:6 241:25		

tube 88:25	168:10 188:16	um 9:13,21 11:21	140:19 146:2,6,15
tubes 88:24	193:16 201:7	12:3 13:21 16:20	148:10 150:1
tucker 3:11 6:16	212:18 218:15	18:4 19:1,18,19,25	153:12 154:21
tunes 246:12	237:10,15 241:3,8	23:20 25:1 26:20	157:25 158:1
turn 27:20 44:5	245:24 256:11	26:25 28:12,16	159:10,16 162:25
45:9 49:4 60:21	types 40:22 44:6	29:19 30:7,8 33:4	164:7 165:8,9
61:7 96:17 97:22	45:5,11 88:24	33:14 34:2,7	166:22 167:3,14
103:11 119:17	124:13 192:23	35:25 36:7,16,20	168:1,18,22
121:4 143:15,24	193:8,10 249:21	37:5,15 38:12,23	169:16 170:6,22
152:9 175:20	typewriting	39:17,19 40:17,24	172:9,22 173:2,25
221:23	296:23	41:20 42:21,25	179:17,18 180:15
turnaround	typical 14:25	46:5 48:12 49:22	180:22 181:7,17
241:16	15:11 134:21	50:15 51:17 52:9	182:4,8 183:25
turned 11:17	typically 35:23	52:13,20 53:4,5,23	184:2 188:15
112:21	39:12,16 40:22,24	55:18,18 58:1	189:17 190:1,12
turning 141:14	42:2 44:23 48:15	59:1,24 62:5,23	192:6 193:7,24
144:17 177:3	53:19 54:22 57:23	63:24 64:12,16,21	196:6 197:7 201:1
181:22 193:14	58:1 59:14 69:9	66:20 67:25 68:24	205:22 209:10
turns 143:21	70:24 71:23 79:8	69:2 70:3,4,23	211:17 212:23
tv 265:21	79:18 80:9 83:13	72:7,21 73:1 74:6	218:21 227:12
two 11:13 12:15	87:15 88:6,11	76:7,20,24 79:25	228:22 229:16
25:9 26:25 34:9	101:21 102:6	81:2,16 82:11	232:18 233:14
59:8 63:6 72:3	103:7 107:24	83:11,20 84:20	236:12 242:16,24
81:16 99:8 104:19	125:20 126:12	85:7 86:14,24	243:6,17 244:10
109:7 124:13	134:18 154:2	88:6 91:10,23	245:23 247:16
126:5 130:11,22	189:1 264:12	95:8 96:14 97:5	248:12 251:11
143:2 149:21	284:11 289:14	98:6,11,17 99:11	256:13,23 257:10
167:20 178:17	typo 85:8	100:12 101:17	257:25 258:19
192:23 214:6	u	102:4,14 105:3	259:25 260:12,14
236:3 241:19	u 13:6 27:12,17	106:13 107:3,5,23	262:2,9 263:12
242:14 245:11	uh 8:3 13:24 94:2	108:2 109:16	265:21 268:22
250:16 251:12	103:23 117:15,24	110:19 111:7,13	269:8,14,17 274:3
252:17 254:1,3	118:20 136:11	112:15,19 114:11	278:21 279:8,22
259:11 268:14	144:24 178:8	114:12 115:12,13	281:22 282:5
280:14 294:11	180:3 182:17	124:12,18 125:3	283:16 286:9
type 8:6 13:10	183:5,7,10 186:14	125:19,21,24	294:2,6,12 295:1
31:25 41:1 44:9	206:6 242:3	126:6,7 127:11	unable 11:22
44:16 51:9 53:16	294:21	129:15,22 130:3	87:13
56:20 58:24 83:25	ultimately 92:2	132:10 133:14	uncertain 97:3
126:13 136:9	199:13	135:7 136:6	uncertainty 97:23
152:5 164:4		137:12,13,22	

uncle 184:4 292:16 294:4	university 15:16 37:9 113:23	usually 41:2 213:3 291:25,25	vertec 269:24
unclear 179:5 221:16	unquote 22:16	utilizes 63:11 68:11	vertiq 68:8 235:15 235:24 236:3,9,13 238:5,7,12 239:6 240:11 241:18 269:25 270:3,7,9
uncommon 111:18	unusual 10:20,21 11:3 87:20	v	veterans 150:9
undergone 248:7	update 210:19	va 150:7,25	vice 7:24
underneath 192:17	updated 208:10	vague 122:22	victim 95:7 174:25
underreporting 142:8	upfront 54:15	validate 81:24	victims 198:17 199:18
understand 8:21 9:10 30:18 47:22 62:16 84:5 91:19 98:9,16 104:24 105:1 124:9 163:10 180:6 206:10 213:24 233:12 273:2,25 278:25 280:1 281:16 286:9 292:23	upper 62:18	validated 65:12 81:7,13,21 87:2 209:10,13	video 1:15 6:1 295:15
understanding 49:15 180:25 233:9 242:1 275:24 284:7	urine 35:4,7 47:3 47:4,10,15,17 64:4 64:6,10,17,18,19 64:20 65:14,14 80:5 87:18 93:13 120:16 125:20,21 125:22,24,25 127:23 128:4,6,6 130:1,1 228:2	validating 228:4	videographer 3:24 6:2,18,21 60:15,17 124:3,5 187:19,21 225:16,18 256:18 256:20 285:24 286:2 295:14
understood 9:1 71:18 105:4 181:21 284:15 286:11	usage 120:1	validation 209:19 209:20 211:16 212:2 228:19 287:18	view 163:4
undertaken 208:14,19	use 40:15,17 41:2 42:6,14 47:5 68:12 70:8 72:24 73:8 100:1 101:15	validations 15:10	village 154:24
undertook 138:14 140:23	102:21 106:12 107:10 117:18 124:14 128:24 161:8 179:4 183:23 190:24,25	value 95:15 287:12	vince 152:23 155:9 155:10,13,14
undetermined 106:24 296:10	220:21 236:3,5 237:24 243:16 265:5 268:13 270:7 292:4	variety 128:12	visibility 39:22
unhappy 110:22	user 69:1,7 119:23 122:20 123:7	various 58:24 260:7 273:7	visit 266:14,23
unique 96:1	users 123:10	vary 98:15 99:2 108:9	visited 268:5
unit 38:11 253:16 253:20,22 265:1	uses 90:24 91:4 179:7 190:2,22 235:23,24 246:5	vasquez 155:15	visits 266:3,11
units 37:17		vast 204:9,12 205:1,18,25	vitreous 51:17 65:13 69:9 89:9 89:10,11,16 120:17
		vendors 208:15,20	vitro 28:12,20
		verdict 237:18	volatile 46:17 125:18 126:6,10 126:11 129:25
		verified 55:24	volatiles 34:25
		verify 182:7 211:10	volume 48:11 65:19 83:12,15
		veritext 298:1,7 301:1	volumes 52:2
		versa 7:24	vs 1:8
		versions 116:23	
		versus 79:24 97:23 121:20 125:5 128:3 142:18 167:24 168:11	

w	way	witness	workers
w 242:4,12,13	49:14 54:19 58:18 71:17 83:7	6:22 34:1 34:15 103:25	20:23 114:1
wait 155:13 198:6	88:6 109:19	104:1,12 296:16	working 16:2 36:21 37:5 100:19
waived 298:13,21	110:18 112:23	296:25 297:4	113:21 116:9
wal 2:15 6:11 7:11	115:25 118:2	298:8 299:1,4,11	202:5 221:14
walk 44:4 49:8,23 196:19	132:25 133:21 134:14 139:21	300:1,4,15 witnesses 73:17	243:3 247:8 260:24
wallace 185:15	172:20 204:18	woman 134:1 172:10 185:15	workload 47:19
want 7:16 21:3 26:13,17 30:17 36:23 41:3,16 44:4 48:12,14 49:23 53:5 54:3 54:23 60:13 61:16 63:20 66:21,22 72:22 74:10 93:14 118:18 200:12 206:3 210:7 213:17,19 228:24 240:19 242:8 244:14 255:5 275:19 278:24 283:19 284:20 286:23	228:11 239:16 256:12 260:5 264:6 275:9 286:4 294:5 we've 248:20,25 278:22	255:12 women 175:1 wonder 27:24 wondering 208:1 255:11	workplace 16:21 works 124:2 136:7 279:1
wanted 19:2 21:1 39:7 40:11 47:22 102:11 103:19,24 134:12 148:4,20 188:9 190:5 200:18 210:19 237:9,9 245:7 259:15 280:15 281:12	website 200:11,16 201:3 267:17,21 267:25 268:5 290:5,10,11	word 63:2 134:2,5 136:15	worksheet 197:2 workshops 113:24
wants 101:4 111:18 280:4	week 59:24 60:4 140:4 189:10,10 191:2 215:12	wording 110:10	world 270:25 273:20
warning 148:14	weekend 80:23 190:7 230:5,8	words 78:18 79:4 115:22 120:3	worrell 152:19
washington 3:20 28:23	weekly 108:16 189:7,11,24	121:1 136:11 137:2 168:14	wow 75:14 289:2
watch 23:1	work 14:21 15:2,5 15:13 17:5 18:21	176:14 192:7 201:4 208:13	write 15:7,7 21:17 23:3,7 24:3 27:5
water 28:21	weeks 143:2 216:7	30:12 52:8 86:20 87:4 181:4 237:21	writing 68:24
	went 14:11 77:3 139:7,10 148:18 150:2 159:21	work 14:21 15:2,5 15:13 17:5 18:21 18:23 19:24 22:11	written 84:11 85:6 85:15 100:22
	195:25 202:24 268:5 275:4	22:15 24:1 38:2,3 38:6,21 44:25 46:25 47:9,16	104:7 262:19 266:18 285:13
	west 154:23	71:19 73:9 74:17 75:7,19 85:18	wrong 85:8 234:3 275:24
	wide 128:12	112:23 113:24 152:21 156:18	wrote 10:7,8,9,12 33:5 85:8 148:10
	widely 99:2	183:25 208:4,15	181:5 210:9
	wildly 99:9	208:19 234:10	wv 3:6
	williams 154:9	235:19 261:7,15	wyman 29:16
	willing 289:21	264:19	37:12 116:19
	wise 26:2 211:24	worked 16:5,7 17:13,16,18,20	268:23
	wit 7:6	152:24 208:24	wyman's 58:11
	withdraw 271:4		x
			x 117:9

y	
y 27:14 242:6	253:24,25 254:1
yacco 251:13	275:4,17 277:14
yeah 13:12,13	277:16 292:10
24:6 25:20 33:14	yearly 109:24
37:23 42:17,21	years 33:4,18
43:5 46:4 48:23	76:17 77:1,5
49:6 62:9 64:23	104:19 137:25
67:21 75:15 76:20	138:4 144:15,23
79:14 94:15 99:11	156:14 178:4
104:1 107:6	187:4,8 205:19,23
108:23 111:17	207:18 208:13,18
119:4 123:13	209:8 246:1 254:1
138:17 150:17	254:3 257:14
155:5 156:2	273:9
167:10 170:24	yesterday 12:13
172:15 180:8	14:1 30:11
182:1,13 187:6	york 2:20
189:13 197:10	
207:7 213:23	z
216:18 220:19	z 22:6,6 27:6
227:22 228:8	zemek 153:7
231:14 236:12	zero 205:2,10
238:2 241:16,21	zolpidem 25:10
241:23 242:20	127:12 130:13
243:2 247:18	zoos 224:25
249:22 258:19	
277:10 290:15	
year 10:23 16:8,11	
29:11 33:12 48:6	
48:15,16 49:3	
56:17,21 57:1	
75:10,13 76:17	
77:11 81:20 82:1	
112:19 114:15	
115:12 137:17	
166:18 176:21	
186:4,11 188:18	
191:18 194:3	
201:20 209:16	
212:24 250:20	

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES

ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF SEPTEMBER 1, 2016. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS
COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

Veritext Legal Solutions complies with all federal and State regulations with respect to the provision of court reporting services, and maintains its neutrality and independence regardless of relationship or the financial outcome of any litigation. Veritext requires adherence to the foregoing professional and ethical standards from all of its subcontractors in their independent contractor agreements.

Inquiries about Veritext Legal Solutions' confidentiality and security policies and practices should be directed to Veritext's Client Services Associates indicated on the cover of this document or at www.veritext.com.